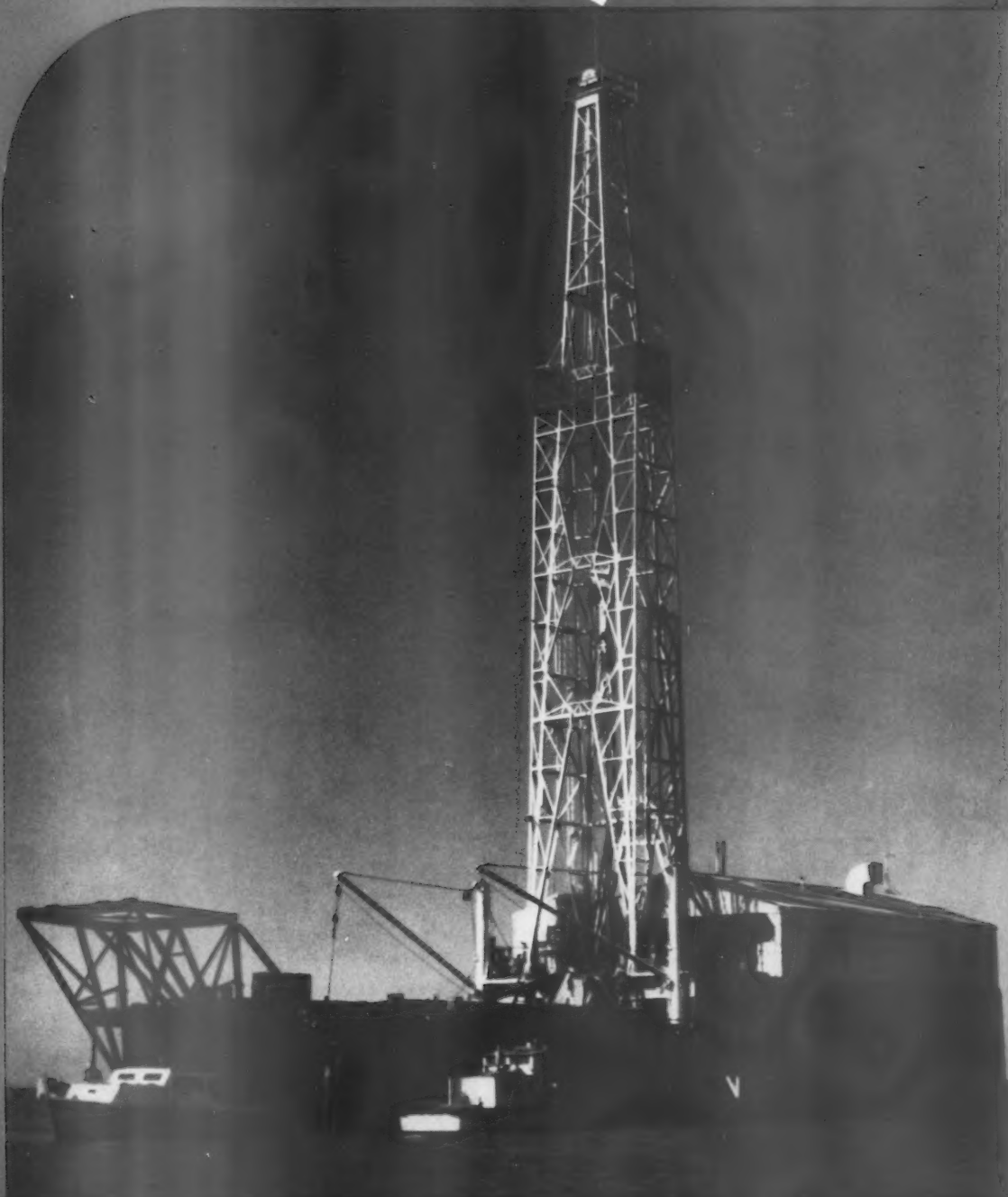


AMERICAN GAS ASSOCIATION

Monthly

MAY
1953



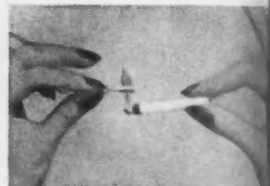
apple of your eye... your new Gas range

so automatic

it does everything but set the table



Cooks meals by itself. What a boon for busy wives! You never have to "remind yourself" to look at the oven. Just set the automatic clock control—the oven turns itself on and off automatically. The heat control's automatic, too; never creeps up or down after you set it.



Smokeless broiling plus flame-kissed flavor. The cigarette test *proves* why you get better broiling with Gas. Hold a lighted match over the smoke of a cigarette. See how the flame "eats up" every wisp of smoke. Nothing but a flame does this. Nothing but a flame gives such downright delicious flavor.

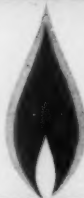


Instant on-off heat. Say "pooh" to burners that heat up in seconds. Yours pop on automatically in a split second. Gas gives you the heat you want *instantly* with no lingering after-heat. Yet with all this, Gas ranges cost much less to buy, less to install, less to use.

AMERICAN GAS ASSOCIATION

This is how your New Freedom Gas Kitchen* will look with a Tappan automatic Gas range, built to "CP" standards. It's just one of many fine "makes" your Gas company or Gas appliance dealer is showing.

only Gas



gives you such a choice of modern automatic ranges!



An underwater well drilling operation is carried on by C. G. Glasscock rig in Corpus Christi Bay, Texas. The location is in the Mustang Island Field

THE national university of the gas industry outranks almost every institution of higher learning, in total session hours, calibre of teaching staff and number of students.

The reference is to the composite of the conferences sponsored by A. G. A., the A. G. A. Annual Convention and the conventions of affiliated associations, both regional and national. Their presentation of technical papers and their provisions of a forum for discussion of industry problems represents, in total, a living university of the most realistic sort. To them, as students, come engineers seeking the solution to technical problems, sales executives in quest of ideas and inspiration and administrators to study and discuss techniques for meeting current problems.

To these conferences are brought, as lecturers and teachers, outstanding experts from within and without the industry.

Though staged in widely separated cities, by a variety of organizations, these sessions are unified by their devotion to bettering an already superior service. As with any other educational endeavor, its value is in direct proportion to the student's application.

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A. G. A. national consumer advertising for spring features the automatic gas range in a New Freedom Gas Kitchen

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Problems of marketing, public service and development, brought on by the unprecedented recent rapid growth of the gas industry, are being attacked jointly by utility and appliance leaders

Launch gas industry development plan

A vital, driving force is rising in the gas industry. Utilities and appliance manufacturers are mounting a unified campaign to promote gas appliance sales and to improve service, safety, research and public relations as a background for such efforts.

The program originated in the gas utility and appliance manufacturing industries with the realization that—despite unprecedented gas sendout, greater-than-ever total capital investment and a marked increase in number of customers—there are some underlying danger points. In a series of meetings inaugurated last June, committees from the Boards of Directors of A. G. A. and GAMA made a comprehensive study of the situation.

Their findings were summarized in concurrently adopted statements of principle which call attention to the fact that "tremendous progress of the gas industry in the past 10 years, with annual revenue nearly double what it was in 1942, now requires all factors in the industry to take time out for self-appraisal and a general tightening of their public service machinery."

The findings and recommendations of this joint-industry group are the basis of the Action Program for Gas Industry Development which is designed to "help us not only to keep pace with public demand for gas and gas appliances but also to maintain our competitive position in the fuel and appliance field."

Indicative of the lusty vigor underlying the program is the energetic method that is being used to present it to executives of utilities and of appliance manufacturing companies. Task forces organized by the Gas Industry Development Committees of each association are carrying the program to their members; meetings have already been held in 20 key cities.

Constituting the committee of the gas utility group are: Dean H. Mitchell, president, Northern Indiana Public Service Co., chairman; Charles E. Bennett, chairman of board, Manufacturers Light & Heat Co., Pittsburgh; Robert A. Hornby, executive vice-president, Pacific Lighting Corp., San Francisco; James F. Oates, Jr., chairman, The Peoples Gas Light & Coke Co., Chicago; Frank C. Smith, president, Houston

(Texas) Natural Gas Corp.; Paul R. Taylor, vice-president, Stone & Webster Service Corp., N. Y.; J. Theodore Wolfe, executive vice-president, Consolidated Gas Electric Light & Power Co. of Baltimore; Charles G. Young, president, Springfield (Mass.) Gas Light Co.

Messrs. Mitchell, Smith and Wolfe are the hard-hitting task force that is touring the country to present the program to gas utility leaders. H. Carl Wolf, A. G. A. managing director, assists in supplying information compiled by the A. G. A. staff. At each meeting a member of the Board of Directors, and in some cases a member of the committee, acts as host.

The manufacturers' committee consists of chairman Lyle C. Harvey, president of Affiliated Gas Equipment, Inc.; Frank H. Adams, president, Surface Combustion Corp.; Sheldon Coleman, president, The Coleman Co., Inc.; James F. Donnelly, president of GAMA and vice-president in charge of sales, Servel, Inc.; T. T. Arden, executive vice-president, Grayson Controls Division, Robertshaw-Fulton Controls Co.; Frederic O. Hess, president, Selas Corporation of America; Stanley H. Hobson, president, Geo. D. Roper Corp.; the late R. L. O'Brien, president, Detroit Brass & Malleable Works; W. F. Rockwell, president, Rockwell Manufacturing Co.; Louis Ruthenburg, board chairman, Servel, Inc.; and H. L. Clary, sales director, Norge Division, Borg-Warner Corporation. Supporting data for the manufacturers' phase of the program was introduced by H. Leigh Whitelaw, managing director, Harold Massey, assistant managing director, and Edward Martin, director of marketing and statistics of GAMA.

During the 10 A. G. A. meetings, to date, the program has been explained to 100 top utility executives whose companies supply gas to 80 percent of the meters in this country. Over 300 appliance manufacturers attended the regional sessions held by the GAMA group in 10 key cities. Each gas utility or appliance manufacturing leader is being urged to review the program with associates and other top executives in his vicinity. Each is being asked to refer to the committee his company's position on each of the points of the program.

The program makes certain suggestions to member companies, some to association committees and some to A. G. A.

and GAMA jointly. At the same time, the GAMA program is addressed to its members and to its association.

The 15 basic action points, which are being urged for adoption by operating company members of A. G. A. are:

1. To assume responsibility for developing an adequate sales volume of gas appliances in its territory, either through direct merchandising or through dealer promotion, or both.

This will necessitate a determination of the potential market for gas appliances in the areas which it serves, including both the replacement market and the new customer market. In many cases it will also necessitate the rebuilding of company merchandising forces and/or the redirection of dealer-cooperative efforts.

2. To encourage and promote the sale in new homes of gas appliances of as high-quality standard as justified. This will require that each company establish closer and more adequate sales contacts with local builders and architects.

products of manufacturers who give adequate attention to the improvement of their appliances and provide adequate advertising and promotional support to their sale.

8. To reevaluate its main-extension policies in order to secure the maximum economic number of new customers.

9. To distribute gas with sufficiently uniform characteristics and pressures as to permit the proper performance and satisfactory operation of appliances throughout the year.

10. To inform its customers regarding the extent and character of the appliance servicing which the utility is currently prepared to render.

11. To provide, upon customer's request, prompt and efficient appliance adjustment service, preferably with the cost of such service included in operating expenses to the extent reasonable and practicable. This service should be rendered to all gas appliances meeting prevailing minimum standards of safety, without distinction as to appliance



Dean H. Mitchell, president, Northern Indiana Public Service Co., Hammond, is chairman of A. G. A. Gas Industry Development Committee



Frank C. Smith, president of A. G. A. and of Houston Natural Gas Corp., is a member of committee and of task force explaining it



Theodore Wolfe, executive vice-president, Consolidated Gas Electric Light & Power Co., Baltimore, is also a committee and task force member

3. To encourage and promote appliance replacement sales. This is essential, not only to attain adequate sales volume and to maintain public acceptance of gas as a modern fuel, but also in the interest of customer and public safety.

4. To assume leadership generally in promoting the sale of top-quality appliances, without lessening its efforts to promote the sale of lower priced appliances.

5. To determine whether dealers have available adequate appliance financing facilities, and, if not, to extend such financing arrangement to dealers or to see that they are otherwise made available, for appliances meeting prevailing minimum standards of safety.

6. To discontinue exclusive appliance sales franchises where now exercised.

7. To insist that individual manufacturers shall bear their share of the responsibility for the upgrading and promotion of quality gas appliances; and to promote especially the

warranty or point of purchase; provided that, in the judgment of the utility, the appliance can be restored to a proper operating condition. The above does not imply that the utility need be the exclusive agency for providing appliance adjustment service. Where the utility finds improper installations made by others, it is urged either to correct such installations or to refer the customer to an appropriate service agency.

12. In the absence of adequate service by other parties, to offer, at reasonable charges to its customers, parts-replacement service on gas appliances which meet prevailing minimum standards of safety, without distinction as to appliance warranty or point of purchase, provided that the appliance can be restored to proper operating condition. The availability of the necessary parts is the responsibility of the appliance manufacturer or his designated representative.

13. Whenever necessary, to assist appliance manufacturers and their local representatives in the training of appliance in-

stallers to conform to local ordinances, building plumbing and other codes, in order that gas appliances shall be properly installed, initially adjusted, and serviced with replacement parts; and to assist them in making field checks to determine the effectiveness of the training program.

14. To encourage all installers of gas appliances to familiarize themselves with local building codes and ASA Standard Z21.30, "American Standard for Installation of Gas Piping and Gas Appliances in Buildings," and also with safe, uniform installation instructions to be furnished by appliance and equipment manufacturers.

15. To accept the Association's appliance approval requirements and testing programs as the basic and fundamental standard of the industry—the primary objective being to ensure a high degree of safe operation throughout the reasonable, expected life of the approved appliance.



The task force of the Gas Appliance Manufacturers Association's Industry Development Committee has been holding regional meetings across the country, explaining the proposed program to appliance manufacturers. Seated at the head table during the St. Louis meeting were, left to right: Edward R. Martin, marketing and statistics director and Harold Massey, assistant managing director, GAMA; Sheldon Coleman, president, The Coleman Co.; H. Leigh Whitelaw, GAMA managing director; and Arthur Stockstrom, president, Magic Chef, Inc.

Three points are addressed jointly to the utilities, manufacturers and associations:

1. It is regarded as essential to the upgrading of gas ranges as to both safety and service, in the interest of the customer as well as of the utility, that automatic lighting of top burners (proposed as an amendment to prevailing minimum safety standards), and also automatic lighting of all other burners, be adopted at the earliest date possible. Automatic top lighting is now almost universal and recent field tests of several thousand ranges indicate the practicality of automatic lighting of all range burners. Pending the adoption of automatic lighting of all burners as a requirement for the approval of ranges, utilities and manufacturers are urged to develop the market for such ranges by suitable promotional efforts.

2. It is likewise regarded as essential to the up-grading of gas appliances in the interest of the customer, as well as the

utility, that utilities promote the sale of appliances which not only meet prevailing minimum safety standards for gas appliances but also comply with new and additional minimum specifications which will ensure customer satisfaction with the efficiency, performance and usability features of gas appliances when compared with competitive equipment. Such new minimum specifications should be developed by committees of the American Gas Association, utilizing qualified technical men from aggressive utilities and the best available information from leading appliance manufacturers.

3. Laboratories operated by individual utilities can serve many worthwhile purposes, but should not set up unnecessary special utility requirements as a condition for the promotion and sale of gas appliances locally. The presidents or second-ranking officials of utilities possessing testing laboratories are urged to meet for review of all special company and

supplementary appliance requirements, in the hope that those found necessary in a large segment of the industry may be incorporated as nation-wide approval requirements, those found unnecessary may be eliminated, and those remaining may be minimized in number.

Six points are addressed to A.G.A. Committees:

1. That the National Advertising Committee add architects' and builders' publications to its list of media employed in the PAR advertising program, and one industrial and one commercial equipment manufacturer to its Industrial and Commercial Copy Committee.

2. That the Association set up committees establishing standards for identifying appliances which not only meet prevailing safety standards but also comply with new and additional minimum specifications which will ensure customer satisfaction with the efficiency, performance and usability features of gas appliances when compared with competitive

equipment. Such committees should utilize qualified technical men from aggressive utilities and the best available information from leading appliance manufacturers.

3. That all Appliance Approval Requirements Subcommittees follow the action of the Range Approval Requirements Subcommittee in requiring that each manufacturer furnish with his appliance a set of approved installation and servicing instructions.

4. That the Range Approval Requirements Subcommittee give fullest consideration to requiring the full automatic lighting of all burners on a gas range at the earliest practical date.

5. That, in the interest of more rapid upgrading of appliance quality and performance, the PAR Research Program be reviewed and those projects which will expedite the most rapid improvement be selected; that consideration be given to the reduction to practice of all experimental data and findings by the construction of a demonstration unit whenever substantial improvement is indicated; and the method of reporting such data be such as to expedite its more rapid use by manufacturers in their designing of appliances.

6. That the proposed A.G.A. Public Relations Program afford full treatment of safety problems.

Recommended by the Board of Directors of Gas Appliance Manufacturers Association for adoption by its member appliance manufacturers is a comprehensive 16-point program.

1. That each manufacturer use a trading area basis in reporting his sales to GAMA.

2. That manufacturers do their part in promoting the sale of better grade appliances to builders, architects, and real estate developers.

3. That in the interest of customer and public safety, each manufacturer accelerate the sale of new appliances to replace those which are eligible for replacement.

4. That each manufacturer keep pace with competition by upgrading the performance and saleability of his products.

5. That manufacturers now offering exclusive appliance sales franchises refrain from offering such franchises to utility companies.

6. That gas appliance manufacturers spend more on advertising and promotion to bring these activities more nearly up to a par with those of their competitors.

7. That the manufacturer fully and fairly live up to any warranty which he has made.

8. That manufacturers, directly or through their designated representatives, provide replacement parts and local qualified service personnel for the installation thereof and have them available promptly to the customer during the normal life of the appliance. But manufacturers should not be called upon to provide replacement parts unless, in their judgment, the appliance can thereby be restored to proper operating condition.

9. That manufacturers, directly or through their designated representatives, make available to local installation and service personnel adequate and readily understandable instructions, so that the appliance may be properly installed, adjusted, serviced

and operated, and make available to the customer readily understandable operating instructions.

10. That manufacturers, directly or through their designated representatives, provide, whenever required, with the assistance of the local utility, adequate training of local personnel in appliance installation, adjustment and parts replacement. And further, with the assistance of the local utility, that they make field checks to determine the effectiveness of the training program; in such training programs, the installation information given to appliance installers should conform to local ordinances, building and plumbing codes, and A.S.A. standard Z21.30.

11. That manufacturers build appliances of such design and construction that proper performance and operation may be obtained over a normal appliance life with minimum adjustments and parts replacements, and with reasonable accessibility for such service.

12. That manufacturers of domestic gas appliances furnish with their appliances, and to their distributors and dealers, safe, uniform installation instructions.

13. That manufacturers of domestic gas ranges furnish with each range a suitable set of installation and servicing instructions.

14. That automatic lighting of all burners on a gas range, in place of the use of a match, be given the fullest consideration by the manufacturer as well as by the approval requirements committee. Pending adoption of automatic lighting of all burners as a requirement for the approval of ranges, utilities and manufacturers are urged to develop the market for such ranges by suitable promotional efforts.

15. That manufacturers give their full support to the subsequent meetings, studies and implementation required to assist in the elimination of special utility requirements and encouraging utility laboratories to perform those worthwhile services which will be beneficial to the industry in its entirety.

16. That in addition to the continued production and distribution of A. G. A. Approved Appliances, manufacturers endeavor to make fuller use of research findings and to engage in research on their own behalf. It was also urged that these results be recognized in a steady and rapid strengthening of the Approval Requirement.

Two points are recommended by the Board of Directors of Gas Appliance Manufacturers Association for adoption by that association.

1. The Gas Appliance Manufacturers Association urge manufacturers of commercial gas cooking equipment to submit their appliances promptly to the A.G.A. Laboratories for approval.

2. The Gas Appliance Manufacturers Association should add to its staff a promotional director who will be responsible for the above outlined activities.

And, finally, it is urged by both the A. G. A. and the GAMA committee that their two associations jointly prepare industry-wide market potentials and provide utilities with technical advice and suggested procedures to aid them in setting sales potentials in their areas.

(Continued on page 52)



Industry leaders in the forefront of gas research and utilization led the Tuesday luncheon. Seen are: S. J. Levine, Bloomfield, N. J.; Edwin L. Hall, A. G. A. Laboratories; Lyle C. Harvey, Cleveland; James F. Oates, Jr., Chicago, featured luncheon speaker; John J. McKearin, St. Louis; H. Carl Wolf, A. G. A. Headquarters; Hale A. Clark, Detroit; C. L. Elliott, Cincinnati; and Thomas Lee Robey, A. G. A. Headquarters



A panel on "What I Would Like to See in Domestic Gas Appliances and Services" comprised J. G. White, Chicago; Mrs. M. L. Bohn, St. Louis; George M. Nash, Poughkeepsie, who was moderator; J. W. Ferry, Cleveland; and Robert A. Little, Cleveland



Speakers at the Tuesday morning session included Alan Kinkead, Belmont, Calif.; J. A. Gilbreath, Evansville; Session Chairman J. J. McKearin, St. Louis, Dr. Robert C. Weast, Dr. F. E. Vandaveer, Cleveland



Panel discussion participants were, l. to r., sitting, S. J. Levine, Bloomfield, N. J., and I. E. Rowe, Jackson, Miss., whose subject was "Heating and Air Conditioning"; standing, C. L. Elliott, Cincinnati and C. G. Segeler, A. G. A., "Water Heating"



Timely thoughts on a current international problem, "Socialism in Treaty," were presented at the Wednesday luncheon by W. H. Wiedeman, left, introduced by W. R. Pringle, Cleveland, who presided



The nine-man line up of the speakers table "team," at the Wednesday Research and Utilization Conference luncheon, included: Walt B. Kirk, A. G. A. Laboratories; H. A. Brown, Rochester, N. Y.; John J. McKearin, St. Louis; Walter H. Wuerdeman, Cincinnati, the guest speaker; W. R. Pringle, Cleveland; K. B. Nagler, Chicago; E. J. Horton, Youngwood, Pa.; K. H. Flint, Kalamazoo; and Roy A. Siskin, A. G. A. Headquarters

Research, basis for progress

Despite a booming gas business tomorrow's gas industry progress still depends upon today's research. Such was the keynote of the Eighth Annual Research and Utilization Conference of the American Gas Association April 7-8, Hotel Statler, Cleveland.

The largest registration and attendance in the eight years of the conference's history, totaling well beyond 400, comprised engineers, servicemen and general technical and sales personnel of gas companies and appliance manufacturers. The conference was held under the joint auspices of the Committee on Domestic Gas Research and the A. G. A. Utilization Bureau. Programs of the A. G. A. PAR Plan were reviewed.

Sounding off as official keynoter, Allan W. Lundstrum, president, Ohio Fuel Gas Co., Columbus, Ohio, warned against "a considerable feeling of complacency with respect to new developments." In effect, he said, some quarters in the gas industry ask, "Why worry about improvements in equipment, other uses, better methods, more base load appliances, when we can't supply all the gas now that people would like to take away from us?" In reply he observed that in many instances "the re-

search work which we do today at best does not culminate in appliances on our lines for five to ten years; it is certainly conceivable that ten years hence we may not be in such a favorable competitive position as we are today."

For future development, Mr. Lundstrum believed that "in the not too distant future the majority of the homes in this country will have summer air-conditioning." He added that "future domestic refrigeration possibilities may well be closely associated with air-conditioning. Perhaps some combination or some dual-use equipment may open up new vistas for us."

Urges development study

In surveying other gas appliances, Mr. Lundstrum felt the water heating load is relatively secure although "we are somewhat behind in equipment which is adaptable to small basement-less homes." He suggested taking a good sound look at our cooking equipment. "Perhaps we should have a new cooking machine or perhaps we should actively work toward a more modular type of cooking unit." He was optimistic about gas incinerators but felt they would have to be designed

into kitchen-use "before we will ever really hit big volume." He foresaw great things for laundry drying.

"What's New in Requirements" was summed up by Dr. F. E. Vandaveer, director of laboratories, The East Ohio Gas Co., Cleveland. He reported that most activity and improvement centered in requirements on central heating, ranges, unit heaters, water heaters, automatic pilots, automatic valves and installation of gas piping and gas appliances. It was recommended that all requirements be revised and brought up-to-date within a maximum period of five years. Once more Dr. Vandaveer stressed that the success of the A. G. A. testing and approval program is anchored on equitable and acceptable approval requirements. Strong committee men familiar with industry needs, he went on, must continue to be selected for membership.

Greater accent on corrosion was reflected in "A Study of Some Variables which Influence the Corrosion Rate of Galvanized Steel Hot Water Storage Tanks," presented by Dr. Robert C. Weast, associate professor of chemistry, Case Institute of Technology, Cleveland. Probably one of the most important fac-

tors controlling hot water tank corrosion is the water being heated, said Dr. West. Specifically, he mentioned the temperature at which water was stored in tanks; the rate at which it was heated, and the volume of water withdrawn daily. In making his tests eighteen heaters were used to heat zeolite softened Cleveland tap water.

Reasonably-priced year around gas air conditioning would provide consumer comfort during all seasons. This innovation also should encourage manufacturers' and dealers' gas appliance sales throughout the year, and build up a twelve-month base load for gas utilities. In effect, that summed up "A Direct-Fired Gas Air Conditioner," described by John A. Gilbreath, assistant vice-president, Air Conditioning Division, Servel, Inc. To meet the requirements of most small-house buyers of modest financial means, he presented an illustrated outline of the new Servel air conditioner which engineers developed for: 1. compactness (12 square feet of floor area, or less); 2. low cost; and, 3. low installation cost.

Highlights on "Gas Venting Becomes of Age," were presented by Alan Kinkead, president, William Wallace Co., Belmont, California. The past method of selecting vent sizes was based on rule of thumb or on formulas which did not take into account all variables involved such as temperature drop and heat capacity of the vent material.

Mr. Kinkead has developed a completely rational approach to these problems, starting with the structurally sound but incomplete formula of Frank Wills. To this he has added correcting factors for each variable. An upper limit (max-

imum capacity) was established but Mr. Kinkead pointed out that "condensation" was more frequently the practical limitation of flue performance. This constituted the "minimum" flue size. He proposed that effort should be directed to bring his proposed method into general use although he acknowledged that additional research would be required to simplify procedure.

A general question and discussion period followed this first morning session which was presided over by John J. McKearin, assistant sales manager of the Laclede Gas Co., St. Louis. He represented H. A. Eddins, vice-president of Laclede, originally scheduled to preside but unable to attend because of business pressure. Mr. McKearin also was chairman of the luncheon session.

Service, safety and product development all go hand-in-hand to spell out industry progress, stated H. Carl Wolf, managing director of A. G. A., who sounded industry greetings. He briefly outlined the Gas Industry Development program through which A. G. A. and the Gas Appliance Manufacturers will continue to weld facts and principles into a front of united action. He saw utilities coming to the fore and developing greater sales promotions, while manufacturers would upgrade design, construction and performance of appliances. To achieve these goals, Mr. Wolf urged all-out inter-industry cooperation.

Industry P's and Q's assumed new dimensions, according to James F. Oates, Jr., chairman and chief executive officer, The Peoples Gas Light and Coke Co., Chicago, who spoke on "The Value of Utilization Research to the Gas Industry." His triple-pronged approach encompassed the philosophical, qualitative and quantitative aspects of the gas industry.

"We have a good research team," he said, adding that "our industry is not outclassed technically by any other industry." Notwithstanding the giant \$12 billion gas industry, Mr. Oates pointed out that an "inconspicuously small" sum has been spent for gas research. He hailed incinerator and water heater tank corrosion research. He also commended the progress made in seeking the universal gas burner, and spoke highly about studies of gas appliance ventilation in the

small-home utility room.

"We're privileged to be a public service industry. We're a competitive industry. We're an American industry," Mr. Oates continued. "But without progress gas will perish. Accordingly, we must lengthen and enhance the value of our gas research program to a three-year-term. We should not ask whether projects should be continued, but rather ask, 'Why should they be stopped?' We should see to it that bulletins and reports are distributed and utilized as promptly as possible. And, let us highly resolve



Distaff-side trio at the technical conference: W. C. Anderson, A. G. A. Laboratories, Mrs. M. L. A. Reed, St. Louis and Miss P. A. Speidel, A. G. A. Laboratories, St. Louis.

that research immediately be built into demonstration units at the earliest possible time."

Afternoon sessions were devoted to panels examining research projects and discussing utilization problems. At the research phase of the cooking panel, Howard A. Brown, assistant superintendent of electric distribution department, Rochester Gas and Electric Corp., Rochester, N. Y., was chairman.

Two home economists, staff members of A. G. A. Laboratories, Cleveland, outlined their work. Miss P. A. Speidel discussed a "Comparative Study of Various Methods of Cooking," and Mrs. W. C. Anderson reviewed the "Prevention of High Surface Temperatures and Cooking Vapor Stains Around Range Oven and Broiler Doors." H. L. Reed,

Just before lunch—

● Following a serious discourse, from an architectural standpoint, on "What I Would Like to See in Domestic Gas Appliances and Services," at a clinic session of the eighth Annual Research and Utilization Conference of A. G. A., at Cleveland, architect Robert A. Little paused, then confessed, "What I'd really like to see in a gas range is a nice juicy porterhouse steak!"

research engineer, A. G. A. Laboratories, reported on the "Study of Domestic Top Section Design" and "Development of Improved Domestic Gas Range."

Presiding over the utilization phase of cooking was H. B. Yost, sales engineer of Hope Natural Gas Co., Clarksburg, West Virginia. The panel felt that through the use of appliance regulators and fixed orifices on gas ranges, manufacturers would be enabled to build a standard appliance which could be installed by a dealer or delivery boy. With 75 percent of the nation's meters using

the day. He stated that corrosion rates could be reduced by several means, even under conditions of high temperature of water. Many opinions opposed excessive water temperatures as harmful to fine china and certain synthetic fabrics. A project in temperature and pressure relief devices was reviewed by Clifford Pountney of A. G. A. Laboratories.

Water heating utilization talk centered on the Federal Housing Authority property requirements for eliminating the use of 20-gallon water heaters (except in one-bedroom, one-bathroom houses)

will we apply venting research, was discussed by E. C. Adams, president, Adams Brothers Mfg. Co., Pittsburgh. Installation of coating coils in ducts which are part of conventional heating systems, was described by Willard L. Amann, sales service manager, Houston (Texas) Natural Gas Company. Constructive suggestions were made by G. J. Tankersley, chief engineer for the Gas Light Co. of Columbus, Columbus, Ga. on "the use of duct heaters with package type cooling units." Rounding up this session was Dwight M. Baker, utilization engineer,



clinical foursome, seen reviewing A. G. A. data, were Thomas Lee Robey, Mrs. M. L. S. A. Headquarters, Howard A. Brown, Rochester, N. Y., Karl B. Nagler, A. Laboratories, Wednesday morning session chairman, and John Corsiglia, Toledo



Participants in panel sessions reviewing research projects and discussing utilization problems were C. L. Benn, Pittsburgh, K. H. Flint, Kalamazoo, H. A. Brown, Rochester, N. Y., and H. B. Yost, Clarksburg, West Virginia

natural gas of similar constituents and gravity, it was believed by the group that a universal gas range may be in the offing.

Discussion of the research phase of water heating was presided over by C. L. Elliott, supervisor, residential heating division, gas commercial department, The Cincinnati Gas and Electric Company. "The Application of Heat to Domestic Gas Storage Water Heaters" was presented by Thorgrim E. K. Kjolner of A. G. A. Laboratories staff. It was felt that perhaps this project eventually may result in producing one or more demonstration heaters which will illustrate desirable design features.

Aspects of the corrosion rate of galvanized water heaters were reviewed further by Dr. Weast, who spoke earlier in

and increasing the size of water heaters to 40 gallons in one-bathroom, three-bedroom houses. Comparative tests of electric and bottled gas water heater efficiencies at Beltsville, Md. also were reviewed. The group strongly opposed all harmful devices allegedly designed to soften water and minimize water corrosion. Session chairman was C. George Segeler, engineer of utilization, A. G. A. Headquarters.

Active interest was demonstrated in discussions of the use of gas and gas equipment in home heating and air conditioning in the research phase conducted by S. J. Levine, manager of engineering, General Electric Co., Bloomfield, N. J., and in the utilization phase, conducted by I. E. Rowe, utilization engineer, United Gas Corp., Jackson, Miss. How

Oklahoma Natural Gas Co., Tulsa, who discussed, "utility experiences with natural gas heating appliances during the past 25 years."

Five active projects were featured at the research phase of general utilization, headed in discussion by K. H. Flint, gas engineer, Borg-Warner Corp., Kalamazoo. These comprised "Research in Pilot Design, Construction and Performance;" "Study of Combustion Fundamentals of Simple Gases;" "A Study of More Effective Use of Secondary Air to Support Atmospheric Gas Burner Flames;" and "A Study of Single Port Burners."

At the utilization problem phase, handled by C. L. Benn, chief utilization engineer, Equitable Gas Co., Pittsburgh, concentration was on domestic inciner-

(Continued on page 48)

The dealer's angle

*Here, through the mouth of a dealer,
a few home truths about consumer
their constructive criticisms*

By J. W. FERRY

*Appliance Manager
The May Company
Cleveland, Ohio*

● The just-announced Gas Industry Development Program (page 2) is buttressed by this thought-provoking analysis of the merchandising and servicing needs of the domestic gas appliance industry. Mr. Ferry's straightforward presentation of the dealers' viewpoint is replete with hard-hitting calls for constructive action by both gas utilities and gas appliance manufacturers. Interestingly enough, the steps Mr. Ferry urges closely parallel those recommended by the A. G. A. and GAMA Gas Industry Development Committees, and emphasizes the first point addressed to gas utilities: "To assume responsibility for developing an adequate sales volume of gas appliances in its territory, either through direct merchandising or through dealer promotions or both."

We all believe the appliance business is a good business or we would not be in it. Last year the major appliance sales totaled three billion dollars. That is Big Business! In fact, the appliance business is the second largest durable goods industry in the world, which coupled with the fact that the gas utilities represent the sixth largest industry in the world, means we are truly talking about

Big Business. What are we as an industry doing to head off the crisis that has all the earmarks of paralyzing our industry?

Where are our marketing leaders employing their talents and experiences?

As sure as the sun rises each day, we all know that we cannot build an industry by cutting prices. The automobile business, which is the only durable goods business larger than the appliance business, did not grow to its present greatness by cutting prices.

Price wars, like all wars, are destructive. Most dealers are extremely aware that there is no bottom to price selling. When you cut prices you always find someone who will cut deeper, and if you try to keep up you will go broke. This business was created by men of vision. Our original distribution was established by rugged individuals and men of courage. Our sales from the beginning were developed by specialty salesmen who worked excessively long hours to create acceptance of our products.

Most manufacturers have not been discreet in building their distribution, during the war shortages. They missed the greatest opportunity in their history to build a firm distribution and marketing organization.

When goods were in short supply they expanded new fields, opened new distributors and expanded their dealer structure way beyond the limits of good marketing. They established new dealers with little or no working capital or business experience to merchandise their products, thus creating a critical problem for the experienced legitimate re-

tailer. There would have been nothing wrong with this idea if it had been developed with a plan in keeping with the fundamentals on which this industry was built. If we are to survive we must develop a specialty selling organization. To do this means a return to ethical business practices and procedures on the part of the manufacturer, distributor and the franchised dealer. As we retailers see it, we must have a re-birth of business ethics. This cannot be done without the cooperation of manufacturers and distributors.

We must strengthen our marketing through careful selection of reputable dealers. We must conduct our business to receive a just return for our efforts. We must develop an industry that will be profitable for our specialty salesmen. We must improve the financial character of appliance dealers, so that the cream of our sales manpower will choose our industry as their career.

The industry must produce a franchise and sell it to the retailer, word for word. This procedure must bring an end to the prostitution of pricing within the industry. We must look to our industrial leaders for a new and aggressive type of leadership. We must stop trans-shipment of goods from franchised dealers to non-franchised dealers, as this one feature alone has created a morality breakdown within the industry. It is a known fact that certain price cutters do a greater volume of merchandising in certain lines even though they have not been franchised by manufacturers of those lines.

We must return to fundamentals and

Delivered at a clinic devoted to "What I Would Like To See in Domestic Gas Appliances and Services," during the A. G. A. Research and Utilization Conference, Cleveland, April 7-8, 1953. A PAR Plan activity.

a leader, the appliance dealer tells the gas industry a
mergers hold key positions in any appliance merchandising plans, and
s doubtful reading by gas industry sales leaders

good business ethics or see our industry become more paralyzed. We believe it is time to take a new look at what the industry has to offer the dealers who, (1) plan to develop their business soundly, (2) who have a desire to carry adequate merchandise and a stronger desire to build a direct selling organization for the purpose of selling an adequate quantity to justify their investment. The answer is not in the price route but in salesmanship, and there is practically no salesmanship in the industry today.

The things that made this industry as great as it is—demonstrations, stressing product features, developing prospects, making home calls—have been almost completely abandoned because the price cutting dealers cannot afford to build a selling force, pay salesmen and at the same time give the customer their profit through selling at a discount. Instead of recognizing the problem that exists and facing up to them in an aggressive, confident, courageous manner, the habit is to ask, "What is the deal?"

We know that we are entering a "shake-down" period, and that it is going to be rough on many manufacturers, dealers and distributors alike. We must realize that we all have to face this sooner or later, and this may be the year when the weak will be separated from the strong. We have reason to believe that for most of us, "It is later than we think."

It must be our objective to conduct our business in such a way that it will be mutually profitable for our dealership, our salesmen, our manufacturers, our

distributors and our cooperating utilities.

Profit is essential to good business. None of us can succeed unless the format of our industry is based on profit. We believe that certain changes in manufacturing, merchandising and marketing are required to meet the competitive situation existing at this time. To improve our over-all position, the following suggestions are given:

1. We recommend that more manufacturers standardize their lines, permitting greater flexibility. This will reduce inventory of many slow selling models and permit the dealer to maintain a better inventory of wanted merchandise, utilizing his capital to the fullest extent.

2. We believe that the manufacturer should shorten his line, not to exceed 10 models, and that each franchised dealer should be expected to carry the full line on his floor at all times; for how can we expect to accomplish a merchandising position when the dealer shows but one or two models of his line. Either the dealer should be large enough to warrant this investment or he should not be a dealer.

3. Manufacturers must recognize the increased costs of delivery and installation in certain areas and should establish their retail prices by zones if possible. Today, we are paying \$19.00 for delivery, installation and warranty, while before the war the same services cost us \$6.00.

4. Should the trade-in become an integral part of our future merchandising plans, our margin should be increased to permit a trade-in allowance, for I think

it is important for the health and welfare of the gas appliance industry to scrap most of the old type ranges that would be taken in on trade and not put them back into the field.

For economical use affecting delivery and service, we suggest the following:

1. Gas ranges should leave the manufacturing plant fully equipped and assembled with a gas pressure regulator and regulator should be rechecked. Electric ranges are complete and do not require the careful assembly and adjustment necessary for gas ranges.

2. Improved secondary air distribution for top burners to affect better combustion without having top burner grids set as high above range top, as they are at present.

3. Oven heat distribution should be improved to insure better baking results.

For reasons of health, we suggest:

1. Careful consideration should be given to component parts so that they may be removed easily for cleaning.

2. Oven bottom should be readily removable for cleaning.

3. Improved broiler efficiency.

4. Two-piece black broiler should be eliminated on all ranges except at the very low price end. We prefer the reflective type (such as chrome) broiler lining.

Good insulation is an important selling point and we suggest:

1. Careful consideration should be given to the increased efficiency of the oven and broiler insulation.

2. Reduce heat at the back of range for compact installation.

(Continued on page 49).



Gas appliances open new vistas in home luxury

Lemon, strawberry, mint, cherry, pistachio: mmm . . . delicious ice cream flavors! Delicate, wonderful interior decorating colors, too, if it weren't for the dirt that plagues homemakers and ruins so much home furnishings beauty.

Today in Philadelphia, however, a new concept of home building has created a dust-free, dirt-free house, designed for relaxed, suburban living amid beautiful, eye-pleasing pastel colors. Called the Air Fashion House, the home features clean, modern gas appliances throughout, including a three-ton all-year gas air conditioner which keeps the air clean, cool and healthy at all times.

It is a well-built home, with four bedrooms, outdoor and indoor living rooms, dining room, two baths, completely equipped kitchen, two expansion rooms and bath upstairs, two-car garage and 60-foot cellar. Located in suburban Rosemont, it is selling for \$42,500.

There are so many wonderful features to the Air Fashion House! The appliances, for instance: Servel's All-Year gas-fired air conditioning unit, gas hot water heater, gas refrigerator and roomy home freezer; Magic Chef's completely automatic "CP" gas range; Calcinator's gas garbage incinerator; Bendix's gas clothes dryer and automatic washing machine; Hotpoint's dishwasher.

The model home, which was opened for the public for the first time on Sunday, April 5, was completely furnished and decorated by Strawbridge and Clothier, one of Philadelphia's top department stores.

Headed by Home Fashions Coordinator Evelyn DeVries, the Strawbridge interior decorating staff made liberal use of lovely pastels, light backgrounded wallpaper and delicately textured fabrics. With a gas air conditioner to make the house dust-, pollen- and moisture-free, the staff found "touchy" colors just as practical as darker hues.

The living room, for instance, features a fabric with a delicately printed floral design in turquoise, light yellow, mauve and pink. This fabric establishes the color scheme, entirely impractical without conditioned air, for the living and dining rooms. Another unusual color scheme used for one of the bedrooms is avocado green and hyacinth yellow with touches of Wedgwood blue. Ordinarily, these colors would be too perishable . . . but not in the Air Fashion House!

The model home, big news in Philadelphia because it is completely gas-equipped, air conditioned and decorated according to a new concept, is drawing huge crowds of visitors from this, the nation's third largest market. This is

Philadelphia's first development where the houses are being constructed with air conditioning as an integral part, rather than as an optional afterthought.

More than just another model home, the Air Fashion House is, in truth, a national gas industry promotion. An amazing amount of preliminary work was necessary to make it the showplace that it is today, and the story behind the promotion is one of which the entire industry can be proud. It actually started last fall, when Herman Goldner Co., Philadelphia distributor for Servel air conditioners, sold the three-ton residential units for all the houses to Madison Builders, Inc., of Ardmore. At that point in the planning, the only gas-fired appliance in the home was the air conditioner, because restrictive gas pipe installation costs had prejudiced the builder to favor other fuels. However, Philadelphia Electric Co. made concessions which enabled the builder to use gas for all other appliances, as well. This meant that many gas appliance manufacturers were involved in the successful completion of the model home.

It was at this point in the planning that Gas Appliance Manufacturers Association started actively to promote the Air Fashion House as a completely gas-



A first-day visitor to the all-gas Air Fashion House is pleasantly surprised by the foot-operated broiler of the Magic Chef automatic gas range.

equipped home. Through its public relations counsel, Carl Byoir and Associates, Inc., GAMA became a clearing house for cooperative efforts among dealers, manufacturers, department store and builders.

Strawbridge and Clothier, fascinated by the possibilities offered in decorating an air conditioned home, undertook the job as its first model house furnishing project in more than 20 years. The store advertised heavily in local newspapers, tying in with its own annual home fashions promotion. In addition, it devoted many windows in its three stores to the project.

Madison Builders, Inc., completed the house against a tight deadline, even making structural changes requested by the decorators. The builder equipped the house with appliances, rugs, wallpaper and drapes. He cooperated further by advertising every day in local papers and agreeing to keep the model open for six months.

The Goldner organization prepared a

pamphlet and distributed it to a large list of opinion molders in Philadelphia. In addition, it supplied a huge sign for the site and descriptive price lists for every room in the house.

Coordination pays off

The Byoir organization planned a giant press review for March 31, just before the scheduled April 5 opening. They took pictures of the house, and coordinated copy into a press kit for all interested parties. The press preview attracted radio and TV personalities, newsmen, press association representatives and trade publication editors.

The fruit of all this labor is just beginning to ripen. Every woman's club in the area has been invited to see the home; schools are being urged to use it as a "living laboratory" for engineering, architecture and home economics courses. A huge room on the top floor of the model house has been left as a meeting hall for lectures, and as a display area

for swatches of merchandise used in each room.

Persons manning the house during visiting hours have learned the over-all story, so that they can speak intelligently, and enthusiastically, about all aspects.

Radio and TV interviews have been arranged for all the principals, to keep interest high during the coming months.

Yes, the Philadelphia Air Fashion House is a beautiful home. Sturdily built, it has been endowed with highest quality workmanship, furniture, appliances and appointments.

But to the gas industry, the story behind the Air Fashion House is even more important. The coordination, planning and cooperation by utility, distributors, public relations counsel, department store, builder and scores of others, is exemplary. It has made the house the success it is today, and will continue to be for the next six months. It is a story of which the entire industry can be proud.



Charles Rickner, Herman Goldner & Co., Servel distributors, discusses the automatic gas hot water heater with builder Nick Schuler, at press preview



Illustrating the many conveniences of gas appliances, Leon Raider, Stewart Lochheim, Inc., displays Servel's continuous, automatic ice making feature



E. Wolfe, Philadelphia Electric Co., lifts lid of the Calcinator automatic disposal unit, during talk with Charles Rickner and Nick Schuler



Toward the goal of providing the best in living, gas was chosen for cooking, water heating, clothes drying, incineration and all-year air conditioning

Safety's a top-to-toe obligation

By GEORGE J. RUOFF

*Safety Director
Central Hudson Gas and
Electric Corporation
Poughkeepsie, New York*

Why the continuation of accidents? Many of us have attended meetings devoted to public utility safety activities for two decades. In retrospect, some of you may say, there's nothing new that has been added to solving this jigsaw puzzle of eliminating accidents. But, actually, we do possess a secret weapon! Our only difficulty is that this secret weapon is like the saying, "We can't see the forest for the trees." It is as simple as that! For years we have had a solution, a secret weapon, at our finger tips. We just haven't put it to work!

Let's review several accidents in an attempt to evaluate the causes and cures.

In the course of installing a new gas main, a lot of rock was encountered so that extensive blasting was required. Several holes were installed for multiple blasting. After the blast had been set off, it was assumed that all the sticks of dynamite had detonated. However, this was not the case because, as one laborer was using a hand pick to clean out the trench, he struck a "primed" stick of dynamite, setting it off. The force of the explosion caused a lot of dirt to enter the worker's eyes with such velocity as to put out both eyes. This injury caused a permanent total disablement. The injured was not wearing goggles at the time.

What about the cures? This company

has since improved its engineering and operating practices by using a special fool-proof safety detonating fuse on all its own blasting, as well as any blasting done by any contractor. This company has also decided that on all hand pick operations goggles shall be worn.

In another instance, a crew of a water company was installing a water lateral across a dual concrete throughway separated by an island of dirt and landscaped with grass and small trees.

A pneumatic paving breaker was used to break up the concrete. On the island side of one concrete lane, the pneumatic machine, equipped with a cutter, was used to cut what appeared to be the roots of one of the trees planted in the island. The root turned out to be a trenchlay cable of a primary 4,000 volt underground distribution circuit. The operator of the pneumatic tool received a shock which proved fatal.

Underground work should never be undertaken without first checking with the electric, gas and communications companies to enable them to tell which of their underground facilities are in the area to be opened, and to spot their locations. As a further check—if available, a pipe locator can be used to "spot" pipes and underground cables.

Another case involves a telephone utility. A new worker was in the rear of a telephone winch truck as the winch was loading a reel of messenger wire weighing about 400 lbs. As the winch line was winding on the drum, the employee was guiding it with his "gloved" hand. The glove caught on a frayed strand of the line and pulled the glove and hand into the winch. The injury consisted of a double fracture of the index finger of the right hand. This could easily have been an amputation!

This was a clear cut case of a violation of this company's safety rules. No one should be permitted inside a truck while the winch is winding up the cable. Guiding a winch cable in the neighborhood of eye bolts or snatch blocks is always a very dangerous practice that should never be tolerated!

These accidents will continue to occur, unless we do something about them.

All business owners, all employers of people must recognize their responsibility to society! They must realize that all accidents are mistakes—costly mistakes. All accidents have serious social implications. The employers should be held ac-

countable!

All safety authorities agree that the safety performance record of any company is a reasonably accurate barometer of how efficiently a company is managed. They also agree that the same things that cause accidents cause other wastes and inefficiencies.

It is only basic that men must want "not to get hurt!" When a man does get hurt, the responsibility rests clearly with supervision. Any one or a combination of the following failures are in operation: 1. Improper selection; 2. Improper placement; 3. Improper training; and 4. Improper supervision.

It is no accident that the companies which enjoy the "active participation" of the "top brass" have had consistently good accident performance!

Any company can do better than it is presently doing! The solution is not to buy a lot of new safety gadgets! The solution is simply to make *better use of the equipment and manpower it now has!*

I am sure that most of us realize that the American economic system of free enterprise is fighting for its life because of the tremendous encroachment of creeping socialism.

One way to guarantee our free enterprise system is to cut down on all waste, especially the human waste resulting from unnecessary accidents. We can only continue to justify our existence as a private business entity when we render the maximum of quality services at minimum cost.

Let's stop kidding ourselves by the complacency of lip service. Let's really stop accidents. We can accomplish this by collectively working at it!

The secret weapon I mentioned is none other than group participation. This means constant two-way communication between foreman and workmen, supervisors and foremen, superintendents and supervisors, managers and superintendents so that every employee knows that the "top brass" of the company is behind the program to stop waste . . . to stop accidents.

This group participation is essentially paramount. The first letters of Participation is Essentially Paramount spell "PEP!"

We can, and must instill more "PEP" in preventing accidents through group participation!

Paper presented at the 23rd Annual Safety Convention, Greater New York Safety Council, Hotel Statler, New York, March 24, 1953.

*Growth of underground gas storage promises
that more natural gas will become available for househeating*

Underground capacity rises

The ultimate capacity of existing underground natural gas storage pools increased 41 percent during 1952 and a further increase of 22 percent is in prospect upon completion of the 17 pools under construction but not completed by the end of last year. This construction activity augurs increasing availability of natural gas for househeating, particularly in a number of northeastern and mid-western states, as well as Kansas and California, where local gas utilities have been hard-pressed in recent years to meet the demands for this service.

The recently released second annual report of the A. G. A. Underground Storage Subcommittee on Statistics, of which John B. Corrin, Jr. of the Hope Natural Gas Co. is chairman, further reveals that existing pools and those under

construction at the end of 1952 will have an ultimate capacity of 1,574 billion cubic feet. On the other hand, the maximum gas in storage at any one time during 1952 was 777 billion cubic feet, which is in itself a record but is only half of what will ultimately be stored in these pools.

Sixteen states; 151 pools

The largest volumes of natural gas in underground reservoirs were stored in Pennsylvania, followed by Ohio, Michigan and West Virginia, while the greatest anticipated expansion of such facilities was in turn indicated for the states of Pennsylvania, West Virginia, Illinois and Michigan. As of the end of 1952, there were a total of 151 underground

storage pools in operation, located in 16 different states.

Reflecting the relatively mild weather during the 1951-1952 winter as well as the need for injecting considerable gas into the newer storage pools as "cushion" gas, approximately 140 billion cubic feet more were injected into storage during the year ending October 31, 1952 than were withdrawn. The maximum daily withdrawal during this period was 4.1 billion cubic feet as compared with a maximum of 3.2 billion cubic feet during the preceding year.

These and other salient statistics relating to the rapid development of these facilities which will enhance the economic transportation and utilization of natural gas throughout the year are shown in Tables 1-3. In addition to Mr.

TABLE 1 GROWTH OF UNDERGROUND STORAGE IN UNITED STATES

YEAR	NUMBER OF POOLS	NUMBER OF STATES	EST. ULTIMATE CAPACITY (CUBIC FEET)
1944 (a)	50	11	135 Billion
1947 (b)	70	11	250 Billion
1949 (c)	80	11	497 Billion
1950	125	15	774 Billion
1951	142	15	916 Billion
1952	151	16	1,290 Billion

Sources:

- (a) E. G. Dahlgren—A.P.I. Eastern District Meeting, Columbus, Ohio.
- (b) E. G. Dahlgren—A.G.A. Natural Gas Department, Chicago, Illinois.
- (c) Max W. Ball—A.G.A. Natural Gas Department, French Lick, Indiana.

TABLE 2 SUMMARY OF DATA ON UNDERGROUND STORAGE, 1950-1952

	1950	1951	1952
Number of States	15	15	16
Number of Companies	31	32	35
Number of Pools	125	142	151
Number of Active Wells	3,853	4,384	4,940
Number of Compressing Stations	83	96	97
Total Horsepower of Compressing Stations	158,173	211,480	248,864
Maximum Gas in Storage—MCF	412,106,099	546,720,275	777,003,396
Gas in Storage as of October 31—MCF	Not Available	Not Available	749,487,290
Input to Storage for Year Ending October 31—MCF	236,682,760	337,744,845	374,119,570
Output from Storage for Year Ending October 31—MCF	143,435,301	200,434,703	234,792,261
Maximum Day Output for Year Ending October 31—MCF	2,591,449	3,240,626	4,101,207
Ultimate Reservoir Capacity—MCF	774,433,966	915,988,520	1,292,321,020
Number of New Pools Under Construction	10	8	17
Estimated Ultimate Capacity of New Pools—MCF	96,463,616	136,526,009	281,497,780

TABLE 3 BASIC UNDERGROUND STORAGE STATISTICS, BY STATE, 1952 (MCF-14.65 PSI AT 60°F)

State	Number of Pools	Number of Active Wells	Number of Compressor Stations	Total HP in Compressor Stations	Maximum Gas in Storage (MCF)	Gas in Storage 10/31/52 (MCF)	Input to Storage Year Ending 10/31 (MCF)	Output from Storage Year Ending 10/31 (MCF)	Maximum Day Output Year Ending 10/31 (MCF)	Ultimate Reservoir Capacity (MCF)	Number of New Pools Under Construction
Arkansas	2	16	1	75	2,250,920	2,116,827	604,813	581,640	7,680	5,060,066	0
California	3	35	3	8,088	15,942,717	15,384,801	15,265,151	15,094,912	318,875	55,782,877	0
Illinois	—	—	—	—	—	—	—	—	—	—	1
Indiana	3	63	2	1,560	1,380,000	1,330,000	1,840,000	245,000	8,000	10,340,000	0
Kansas	12	380	6	9,790	36,309,090	34,726,968	16,155,804	16,305,722	227,484	38,010,947	4
Kentucky	4	202	3	8,520	17,755,325	16,914,494	7,000,773	4,964,431	97,786	24,748,000	0
Michigan	11	747	2	38,680	133,213,675	131,684,081	64,959,055	36,686,070	585,452	223,181,545	0
Montana	1	54	2	2,650	9,722,145	9,722,145	2,764,590	674,033	—	40,016,860	0
New Mexico	4	43	2	2,400	21,544,862	19,864,873	6,590,770	2,768,339	53,659	68,259,498	0
New York	14	276	10	4,700	23,438,315	22,948,001	11,585,725	7,645,780	125,063	29,066,587	0
Ohio	10	1,392	9	34,287	144,586,701	141,598,405	65,439,541	38,458,599	698,896	215,483,699	0
Oklahoma	4	47	2	4,800	51,091,060	50,002,880	22,560,813	10,662,209	152,097	87,970,000	0
Pennsylvania	55	1,281	35	92,049	181,837,208	174,188,099	73,550,046	41,875,651	875,658	300,251,043	3
Texas	2	8	1	600	2,079,962	1,822,417	1,563,907	1,364,372	9,208	6,800,000	3
West Virginia	24	388	17	38,880	129,388,930	121,020,808	79,077,745	56,895,590	921,341	165,477,953	6
Wyoming	2	8	2	1,785	6,462,486	6,162,491	5,160,837	569,943	20,008	21,871,945	0
Total	151	4,940	97	248,864	777,003,396	749,487,290	374,119,570	234,792,261	4,101,207	1,292,321,020	17

Corrin as chairman, the sub-committee which gathered and compiled these data consisted of William F. Burke, Nelson

P. Chesnutt, H. L. Fruechtenicht, Jr., John V. Goodman, Sivert A. Haavick, Russel W. Hofsess, F. A. Hough,

Charles C. Ingram, Lysle R. Kirk, Edwin L. Rawlins, S. E. Runser, D. T. Seacor, Cecil W. Smith, Otto E. Zwanzig.

Employee indoctrination lags in gas industry

The gas industry is a leader in many fields but not in the field of indoctrination or orientation of new employees.

After a recent survey made by the Personnel Committee of the American Gas Association in which 25 companies participated, one personnel director summed it up with the words, "We ain't proud!"

The "indoctrination" given to a new employee in most of the reporting companies consists of verbal information on the first day given by the interviewer and the supervisor. About two-thirds of the companies give the new employee a handbook and rely quite heavily upon it.

But there is a brighter side to the picture. One company conducts four one-

day sessions for a total of a 32 hour course. The average formal program consists of four two-hour sessions. These courses usually begin after the employee has been on the job one month.

Information courses are conducted by supervisors and training directors in eight companies, with an outside director used in five of those companies. Three companies use a training director, one company uses supervisors only, and one company an outside training director. Thirteen companies reporting formal information courses hold those courses in the general offices. Ten of these companies also hold courses in district offices and in five cases in local offices.

Evaluation of the orientation programs by the companies is noticeably absent. A few companies report "periodic reviews by the supervisor, spot checking by the personnel director and a study of labor turnover."

The survey indicates there is considerable room for improvement in this field. The employee, it is generally agreed, should be told more than the location of the wash room, the hours for lunch, and a 15 minute explanation of the fringe benefits. Most of this information is given in the first day of employment.

Lack of follow-through is the chief criticism we can aim at ourselves, says the committee survey.

IGT offers 1953 refresher courses in gas engineering

GAS ENGINEERING refresher courses—initiated last year—will be presented again by the Institute of Gas Technology, Chicago.

The course will be offered in four separate three-week sessions during the period July 15-September 3.

The purpose of the summer refresher courses is to provide an integrated and complete picture of all phases of each subject covered and coordinate theory with practice.

"Natural Gas" is the subject of the opening course, June 15-July 3; "Transmission-Distribution," July 6-July 24; "Natural Gas Sub-

stitutes," July 27-August 14; "Utilization of Gaseous Fuels," August 17-September 4. An individual may apply for enrollment in a single course only, or in several of the courses.

Instruction will be at the college senior level, and is designed to familiarize gas engineers with current problems and practices in the industry, current research and up-to-date methods of measurement and computation.

Satisfactory completion of the course will be recognized by the award of a suitable certificate. Academic credit will not be given. Tuition for the refresher courses in 1953 will be

fifty dollars. Room and board will be furnished at extra cost, in facilities made available by the Illinois Institute of Technology.

Applications for enrollments are being accepted from gas industry male employees who are qualified by education and experience to benefit from the study.

Further information can be obtained from the Director, Institute of Gas Technology, 17 West 34 St., Technology Center, Chicago 16. Applications will be accepted until May 15, 1953.

Cite A.G.A. research cooperation

By R. A. CATTELL

Chief, Petroleum and Natural Gas Branch, Bureau of Mines, U. S. Department of the Interior

● In honor of its long cooperation with the Bureau of Mines in research activities, there has been conferred upon the American Gas Association the Conservation Service Award of the U. S. Department of the Interior. The award was presented by Mr. Cattell, and received by A. G. A. President Frank C. Smith, at the Transmission and Storage Conference, Chicago, April 30-May 1, 1953.

The incentive awards system for employees of the U. S. Department of the Interior has now been expanded to permit awards to organizations or individuals who are not employees thereof, for outstanding and distinguished service to the department in conservation of natural resources. The first group of these awards, for services in the calendar year 1952, includes one for the American Gas Association, which was recommended by the Bureau of Mines.

I look upon my selection to represent the department in presenting this award as a great honor. The cooperation between the American Gas Association and the Bureau of Mines has been dear to my heart for more than 30 years. This ceremony brings memories of much hard but interesting work, inspiring relations with many capable men of the gas industry, and fine friendships.

This award for services in work directed toward effective conservation of natural gas, raw materials for production of manufactured gas, steel, and other resources should be viewed in the light of a long period of cooperation. Then its true significance will be understood more fully.

In 1920, when the American Gas Association was only two years old, its Performance Standards Committee met with

members of the Bureau's Central Experiment Station, Pittsburgh, to consider methods of testing the efficiency of various types of gas stoves. The cooperation then was broadened to include studies of relative values of different kinds of gases for high-temperature work. In 1922 the bureau and the Association agreed to share the cost of a technical study of gummy deposits in gas pipes and meters. A little later they entered into a similar agreement for a cooperative study of warning agents for fuel gases.

Also, about 1920, the Natural Gas Association of America and the bureau, largely through the Petroleum Experiment Station, Bartlesville, Oklahoma, established cooperative work on conservation of natural gas. An educational campaign to inform the public about natural gas and its better utilization was followed by an engineering study of ways to determine and reduce leakage from natural-gas pipelines. A little later cooperative work was begun on formulas for flow of natural gas through high-pressure transmission lines and on methods of controlling and gauging gas wells.

Research continuous

After the merger in 1927 of the Natural Gas Association of America and the American Gas Association, the Manufactured Gas Department of the Association and the bureau's Pittsburgh station cooperated in an extensive study of the gas-, coke- and by-product-making properties of American coals. That was followed by studies of interchangeability of gases and fundamental research on combustion, which is still under way. Meanwhile the Association's Natural Gas Department, the Bartlesville station, and the staff of the Bureau's helium plant at Amarillo, Texas, continued the work begun before the merger and added studies of physical properties of natural gas; performance of wells that produce both oil and gas, including char-

acteristics of gas-condensate fluids and productivity of high-pressure wells; formation, effects, and elimination of hydrocarbon hydrates in gas pipelines; control of corrosion in wells; determination of water vapor in natural gas; removal of nitrogen from gas to increase its heating value; flow at high velocity through large, high-pressure gas pipelines; and related subjects.

In these cooperative studies the bureau supplied the technical staffs to conduct the research. The Association provided the technical consultation and assistance of highly qualified members of the industry, contributed generously to cooperative funds that aided the bureau in financing the work, and, through its member companies, supplied natural-gas wells, compressor stations, pipelines, gas-manufacturing plants, laboratories, and many other facilities that permitted the bureau to conduct research under industrial conditions.

Results of the cooperative work are presented in over 100 reports and articles. Others will be issued. These papers enrich the literature of gas technology and, together with the direct contact between the research workers and employees of the gas companies, are highly effective in applying the findings to the industry's operations.

Throughout the period of the technologic research, the Association gave the bureau fine cooperation in its statistical studies of natural gas and other resources. That also fostered conservation. Technologic research and statistical studies go hand in hand, just as Secretary of the Interior Franklin K. Lane wrote in his annual report for the fiscal year 1919, a little before the cooperative program was started:

"To know what we have and what we can do with it—and what we should not do with it, also!—is a policy of wisdom, a policy of lasting progress. And in furtherance of such a policy the first step is

(Continued on page 52)



CHICAGO

Passing through the entrance to the "Hall of Flame," a major feature of Chicago's 1953 Modern Living Exposition, 250,000 visitors were able to see the latest in gas home appliances displayed by 27 manufacturers and suppliers. The Peoples Gas Light and Coke Co., Chicago, sponsored "Hall of Flame" and conducted the information center, right, where guests were provided with information on home planning and menu suggestions and given literature describing latest model gas appliances.

Gas stars across the nation

All the latest in modern gas home appliances, presented in an attractive court of displays within the "Hall of Flame," were shown to a record number of visitors at Chicago's 1953 Modern Living Exposition, March 21-29.

More than 250,000 persons attended this year's exposition held in the north wing of Navy Pier, in Chicago. Grover E. McDonald, director of the annual exposition, said all attendance records were broken this year.

Twenty-seven major manufacturers and suppliers of gas appliances exhibited their lines at this year's show, occupying 8,200 square feet of actual exhibit space in the gas "Hall of Flame." The focal point was a spring flower-decorated public service and information center, operated by The Peoples Gas Light and Coke Co., Chicago, which sponsored the gas industry exhibit.

Coordinator of the "Hall of Flame" unit of exhibits was Cyril H. Light, domestic sales merchandise manager of Peoples Gas. The company's display and

home planning and home service departments each maintained service booths at the Peoples Gas information center to help visitors with questions on menu or home planning problems.

Other employees distributed a total of 45,000 information kits enclosed in chartreuse and forest green carry-all envelopes bearing the bold-face legend: "Gas Cooks Best—Costs Less!"

Enclosed in each packet were ten customer brochures. One of these was recently published to tell of the broad program which Peoples Gas and subsidiary companies are carrying out to increase substantially the Chicago region's supply of natural gas.

Describe Herscher Dome

The dominant story in this 12-page brochure describes the fast progress which has been made toward completion of the system's Herscher Dome natural gas storage project which will utilize a

24-square-mile anticline formation near Herscher, Illinois. It explains how the aquifer storage field was singled out and tested by oil and gas consultants and how the Chicago region's gas supply will be greatly increased for space heating purposes after the storage field gets into operation on a steadily expanding scale.

Included in the gas equipment displayed by this year's exhibitors were 15 different makes of heating equipment, including air-conditioning and space heating; eight automatic water heating brands, eight lines of cooking ranges, six incinerator brands, two of clothes dryers and one refrigeration line.

Mr. Light explained that Peoples Gas plans to sponsor a "bigger and better" gas industry exhibit center next year. Since Peoples Gas has participated in the exposition, gas equipment exhibitors have increased from 18 to 27, and the total display space used for gas equipment has increased from 4,600 to 8,200 square feet.



The camera catches A. G. A.'s Beverly Hills TV kitchen studio in action with, left, models posed for a publicity photograph against an eye catching background of Lyons cabinets, Gaffers & Sattler gas range and Servel gas refrigerator. The shot of David Niven, right, made in the same studio for release to newspapers and magazines as publicity for the forthcoming motion picture "The Moon Is Blue." He's beautifully surrounded by Lyons cabinets, a Servel gas refrigerator and Magic Chef range



HOLLYWOOD



Product samples and a "gas tree" depicted the broad scope of by-products of oil-gas used by Peoples Gas Co. in manufacturing gas. Over 400,000 visitors studied the exhibit at Miami Industrial Show

MIAMI



Prominent in the new hardwood exhibit of the Chicago Museum of Science and Industry is a combination kitchen, living and game room which features built-in gas cooking units by Chambers Corporation

CHICAGO



Attendance of 23,000-odd—fifteen percent higher than 1952—and a heavy registration in its range bidding contest, marked The Hartford Gas Company's participation in the April 11-18 Home Builders Show

HARTFORD



Industrial relations round-table

Prepared by
A. G. A. Personnel Committee

Edited by W. T. Simmons

This issue brings the return of a column of information which many readers, interested in matters concerned with Industrial Relations, have requested.

● **Absenteeism**—Staying away from work is an expensive habit. And that's money the employee never makes up. Jack & Heintz, Inc., Cleveland, talk about absenteeism in their monthly employee magazine. It's refreshingly free of "preaching," and may give some ideas for your paper.

The following is an example. "Suppose you earn \$1.85 an hour and you are absent from work only three days a month. That costs you \$44.40 a month. What does this amount to at the end of the year? It will total: the down payment on a new car; a set of living room furniture; a grand vacation for your family; the remodeling job you've planned on your house, or a sizable reduction on the mortgage, if you're buying a home; the finest TV set in town; a comfortable increase in your savings account; and best investment of all—over \$500 in Defense Bonds, which would net you well over \$625 at maturity."

● **Wage surveys**—New way to conduct wage surveys by the conference method is proposed by the California Institute of Technology's Industrial Relations Section. They report it's much better, easier, and faster than the usual methods of mailed questionnaires or personal visits. Make all the preliminary conference arrangements right and the plan promises to be surefire. Write the institute (at Pasadena, Calif.) and ask for Circular 20, entitled "Conducting a Wage Survey by the Conference Method." In four condensed pages authors R. A. Nelson and L. R. Sorenson show a lot of practical how-to-do-it guidance.

● **Wage and hour—Salary deductions for jury or reserve military pay**—Wage-Hour Administrator McComb rules in an opinion letter to the Chamber of Commerce and the National Association of Manufacturers that the pay received by an employee for jury duty or reserve military service may be offset against his weekly salary without defeating his exemption as a salaried executive, administrative, or professional employee.

Potential loss of exemption—Sickness benefits, to the extent that they are paid for by the employer, may be offset also. Administrator McComb's letter also announced a "grace period" extended until July 1, 1953, for employers to conform their policies to the regulations for exempt white-collar employees in cases where the employers have been mak-

ing deductions from salary for disciplinary reasons or because of illness or other reasons. In addition to changing their policies, companies also are expected to make reimbursement for the deductions in order to avoid possible enforcement action for their failure to apply the regulations correctly. All of the rules about deductions apply only in weeks in which the employees perform some work. The problem does not exist in weeks they are away from work altogether.

Overtime for salesmen?—A proposal now before Congress would eliminate the present Wage-Hour Law exemption for "outside salesmen" if they make less than \$250 a month. This bill (H. R. 1720) would bring about one million salesmen under the law.

An "outside salesman" is a salesman who works away from his employer's place of business and spends not more than 20 percent of the weekly hours worked by non-exempt employees in doing work other than making outside sales or obtaining orders. If this bill should become law, it would mean that outside salesmen making less than \$250 a month would have to be paid time and one-half their regular rate of pay for all hours worked over 40 a week. And it would present employers with many problems of computing hours worked, overtime, and keeping required records.

● **Graduate engineers**—The National Society of Professional Engineers' current research report on "How to Improve the Utilization of Engineering Manpower," may be purchased at \$2.00 per copy from the National Society of Professional Engineers, 1121-15th Street, North West, Washington 25, D. C.

● **Library additions**—A leaflet entitled "Business Handbooks" aims to give in one reference volume practical working information in its field. Several of the subjects covered are: management and administration; office management; personnel management; public relations; taxation; and other subjects which make it possible to acquire a basic business library.

Copies of the bulletin are available, for a mailing and handling charge of 10¢ from: Miss Rose L. Vormelker, head, Business Information Bureau, Cleveland Public Library, 325 Superior Avenue, Cleveland 14, Ohio.

Source of wages—Best book we've seen on the subject of "where do wages come from" is Eddy-Rucker-Nickels Company's *Progress in Productivity and Pay*. A book review editor says, "It's a gold mine of statistics on manufacturing . . . a reference must for every executive." For copies write to Eddy-Rucker-Nickels Co., Harvard Square, Cambridge, Mass. Statistical tables, charts. 72 pp. \$2.50.

You Can Use Your Time Better, a book by W. E. Dewey, will be published this year by

McGraw-Hill Book Co., more about it later. Being too busy on the job may mean the job's on top of you, instead of the other way around. And it often means frustration and poor performance as well, if you're too busy doing the wrong things. You won't find any miracles here. Nobody can remake you, but you can remodel your own work habits substantially with a little outside help and stimulation.

Influencing people by mail—Letters can help or hurt your company's reputation. So we recommend *Effective Business Letters*, a 32-page handbook just published by General Foods Corp., 250 Park Ave., N. Y. 17. Send \$1 for a sample copy—and 10 to one you'll want copies for other letter-writers in your organization. Special rates for bulk orders.

The Occupational Outlook Handbook, a comprehensive coverage of the major occupations of interest in guidance, reports on each of 433 occupations, including professional, "white-collar," and many of the industrial occupations in which most young people will find jobs. It is useful for those who do guidance work, for those who plan the industrial training and apprenticeship programs, and for those who wish a general reference on occupations. Purchase the handbook from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. The cost is \$3.00 a copy.

● **NLRB rulings—Employer gives illegal support**—An employer gives illegal support to an independent union when he assists its officers in preparation of non-communist affidavits and supplies transportation for trips to NLRB. (Valentine Sugars, Inc. and Valite Corp. and CIO Packinghouse Workers; NLRB; Case 15-CA-367; January 16, 1953.)

Stockholders as members of bargaining unit—The NLRB has ruled that employees who are stockholders in the enterprise for which they work may become members of the bargaining unit of employees of that enterprise, provided (1) their wages and working conditions are similar to those of the non-stockholder-employees in the unit, and (2) they possess no effective voice in determining corporate policy. (Coastal Plywood & Timber Co. and AFL Carpenters & Joiners; Clefent W. Miller, NLRB hearing officer; Case 20-RC-2051; January 15, 1953.)

Employee's promotion delayed—If an employer delays an employee's promotion because a union objects to that employee's anti-union attitude, he thereby interferes with that employee's right-to-refrain-from-union-activity and thus violates the law. (Bell Aircraft Corp. and CIO Auto Workers, Paul M. Herzog, chairman, Cases 3-CA-447, 3-CB-119, November 2, 1952.)

Curtailment of union discussion—An employer does not violate the National Labor Relations Act when he makes known a rule

(Continued on page 46)

Machine accounting and improved record equipment produce economies and latitude for expansion

Mechanizing the small office

By K. H. GOSS

Auditor

Brockton-Taunton Gas Company,
Boston, Mass.

● This study was made before the merger of the Brockton Gas Light Company and the Taunton Gas Light Company. Prior to the merger there were 286 persons employed by the Brockton Gas Light Company.

Our installation of the I.B.M. system is unusual in only one way. We are apparently one of the smallest utilities in the country where this system has been tried, and it is that fact more than any other that makes it worth talking about. In a system of this type, the larger the company the greater the economy.

Most of you will probably wonder why a company as small as ours thought that it would be economical for our use. World War II, as we all know, created much additional office work and caused shortages in the labor supply as well as in office machines and equipment, so that, after the close of the war, we found ourselves in a position, probably shared by many others, that we were behind in our routine work because of lack of sufficient personnel and because of old inefficient office machines and equipment.

We were most seriously affected in the work of customers' billing and accounting, and the problem was to put the work on a current basis in the shortest possible time and in the most economical manner and at the same time provide facilities for expansion.

This article is condensed from a talk given before the New England Gas Association at Boston, February 28, 1952 by Mr. Goss.

At the end of 1945, the company had a franchise area comprising Brockton and nineteen neighboring towns in Plymouth, Bristol and Norfolk Counties, all geographically integrated and covering a territory of about 365 square miles. Altogether, we had 25,669 meters at the end of 1945. During 1945, 13,935 meter orders were processed. This included meter sets and removes and locks and unlocks.

Because of the widespread area served, the company, in addition to its main office, operates five branch offices for collections, servicing, meter reading, and handling meter orders.

Besides the regular billing, which was computed on a gross and net basis, the company had coke and appliance budget accounts and prepayment meters.

At the end of 1945, 25 persons were employed in the accounting office at Brockton.

Average machine complement

Without counting typewriters and calculating machines, we had three machines, an addressograph and graphotype for addressing bills, and a conventional type key driven billing machine in poor condition.

Our customers' accounting was performed manually under the unit plan, and the billing machine was used for making out the gas bills. The sundry bills were made on a typewriter. The only way that production could be maintained during the final months of the old system was by operating on two shifts, starting an hour and a half earlier in the morning, billing during the lunch hour, and frequently on Saturday mornings.

That we could even then cope with the work was due to the fact that we had no rate change for a number of years and the billers for the most part had memorized the amounts for the various rates.

Aside from the actual printing of the bill, the name and address and discount date, all information shown was put there by the billing clerk on the machine. This included date of reading, the readings, gross and net, fuel charge, arrears, house heating budget items and amounts due for coke and appliances. The bill was totaled automatically and the discount date was put on by rubber stamp. Totalizing on the machine assisted in proving the bills.

When we bought the utility billing machine we were convinced that it was the best on the market for our use. At that time we thought that the I.B.M. system for utilities had not been developed sufficiently to be economical for our use.

Our first plan, accordingly, was to purchase another identical machine and to send ours to the factory for a thorough rebuilding job, or to buy two similar machines of a different make. We had grown to a size where two of these machines could have been used economically, but we were told that it would take at least two years before delivery.

With the prospect of increased work, possibility of imminent rate changes, frequent changes in fuel charge, and absence of daily time margin, we then looked about for means of getting quicker delivery of new equipment. The International Business Machine Co. sent a representative to study our problem and finally gave us a proposal which stated that, if used on customers' billing and

accounting, their equipment could do the work for about \$3300 a year less than if we went ahead and ordered the same type of machine we had and overhauled the old one. They also indicated some more savings if their machines were used also on general accounting. This seemed satisfactory, as our original plan would have involved hiring at least two additional persons to help bring and keep the work up to date, besides the costs involved in providing adequate equipment of type then in use.

We discounted the fact that there might be savings, but were fairly confident that it would cost no more than our former method.

Results have exceeded our expectations. The I.B.M. equipment, exclusive of purchase of supplies, costs us about \$660 a month, but a much larger volume of work is being done with one less person than we had in 1945 and, best of all, the work is much better done and is always kept strictly up to date.

The amount of work has grown a great deal since installation of the system. We have 29,735 meters, as compared with 25,669, nearly a 16 percent increase, and total revenues billed have increased 86 percent. Meter orders processed annually have increased from 13,935 to 19,886, a gain of nearly 43 percent. Not only that, but we have been able to handle easily three rate changes, two of which occurred in consecutive months, as well as monthly changes in fuel charges during a large part of the period. This would have been very much more difficult with the former type of equipment.

We are also preparing monthly bill analyses, which formerly were done only at irregular intervals by an outside firm. We are ageing the customers' accounts monthly. We have developed a control on our meters by balancing our meter history record which is on punched cards against our meter reading books on a cycle balancing basis. Most of this work was done very infrequently before installation of the new system. As for expansion, we believe we can handle 50 percent more customers with an additional 10 percent in cost.

We have gone, also, a considerable part of the way in utilizing the I.B.M. machines on the general accounting with the result that our monthly financial statements are produced much earlier in the month than formerly.

The following general records are now being prepared on I.B.M. machines, and

we plan to put others on it gradually: voucher distribution, materials and supplies distribution, counter cash, payroll distribution, general journal, customers' deposits and trial balance. The prepayment and accrual records are maintained manually, but entries are punched for accounting for trial balance purposes.

In addition to the basic tabulating cards, we have two electric key punching machines, a sorting machine, a tabulator, known also as an alphabetic accounting machine, an automatic reproducing punch and an alphabetic card interpreter. These and their three operators and one supervisor are all housed in a room adjacent to the main office. The whole accounting force, except the cashiers, is on the same floor.

In chronological order, the operation commences with the audit procedure. The audit clerk verifies the presence of a billing card for each active meter, and originates the route progress card, which accompanies the meter book, tabulating cards, and bills, throughout the entire billing operation and serves as a control for the various billing operations.

Punching procedure

Next is punching. The advance cards and meter book after audit pass through the key punches. On approximately 95 percent of advance billing cards the punch operator punches only the present reading and the consumption. (The irregular advance cards are punched by the operator as designated by the audit clerk as to the amount of money and steps.)

The next operation involves the electric accounting machine that is designed to perform the checking or proof of the meter reading and consumption. This check is made prior to billing. The checking machine cross balances previous readings, consumption, and present reading, automatically signals errors of either subtraction or key punching, accumulates totals of meters and consumption as a control to subsequent operations.

It should be noted that certain information relative to a customer remains the same as long as a customer is at the present location. Therefore, from the current billing cards it is possible to reproduce on the automatic reproducing punch a new advance billing card to await the next month's reading. The new card contains the common information, town, route, folio, customer's name and rate, and moves the present date and reading on the current billing card into the pre-

vious date and reading field of next month's advance card. This operation is responsible to a very large degree for the accuracy inherent in punch card procedure, because the automatic carrying forward of identifying data assures continuity of the original record verified at time of original punching. The reproduction of this month's present reading as next month's previous reading, automatically provides a protection against loss of consumption. The new advance cards are interpreted before filing and then become the current billing cards for subsequent billing operations.

A set of master cards is maintained for each rate and unit of consumption up to the normal high usage for that particular rate. These cards contain the gross and net amount, steps and step prices for that particular unit of consumption and have been proved as to accuracy at the time the rate was established. The master rate cards are sorted by machine in front of the current billing cards. The combined cards are put into the punch side of the reproducing summary punch and the pricing information is transcribed and automatically checked from the Master Card to the current billing cards at the rate of 100 a minute.

The revenue report is automatically prepared from the current billing card by the electric accounting machine, which lists and accumulates total meters, and consumption for each rate, under each route. At the same time, a revenue control summary card is automatically punched by the reproducing summary punch which is connected to the accounting machine. The total meters and consumption must agree with the corresponding entry posted on the route progress card at the time of the checking run, and at this time the revenue amount is entered on the route progress card.

Route control summary cards that had previously been prepared automatically are listed on the electric accounting machine and a new control balance determined for each route. The individual unpaid ledger cards for each customer are also listed and aged simultaneously by the electric accounting machine to be proved to the control balance. Our experience in proving is about 97 percent flash balances which we consider good. This register is listed in duplicate and one copy is given to the credit department so that special attention may be given to customers' items in arrears and

(Continued on page 47)

Ground beds, 300-feet deep in a mine shaft, are among the unusual features of this 16-year cathodic protection program

A case history of corrosion

By CARL R. DAVIS

Protection Engineer
Montana Power Company
Butte, Montana

A complete survey of pipe-to-soil potential, using a 1,000,000-ohms-per-volt voltmeter and a copper sulphate reference electrode, was the Montana Power Company's first step in installing cathodic protection. Subsequently all of the company's 475 miles of transmission lines and at least 95 percent of its 580 miles of equivalent three-inch distribution lines were placed under complete cathodic protection. This paper deals only with the protection of the distribution system.

The first electrolysis leaks on our distribution systems appeared in Deer Lodge in 1937. This distribution system is divided by a river carrying waste from a smelter and paralleled by a 3300-volt d.c. railway. Much of the ground is saturated with salts from the river water and carries considerable stray current from the electric railway. These stray currents were picked up by the gas system and even though the mains in this system were broken up by insulating joints and protected by an asphalt coating, extensive pitting occurred.

This condition was further aggravated by the city water company making a solid bond to our system on the advice of persons unknown to us but certainly misinformed as to the effect of such a tie. The petroleum asphalt coating used on this job did not adhere to the pipe very well and it absorbed moisture to such an extent that it became a conductor. Inspection

of the pipe showed severe pitting each side of insulating joints, showing that the current was leaving the pipe to the soil and returning to the pipe beyond the insulating joint. The current also was reversing direction of flow depending on the location of the trains with respect to the bond between the water mains and gas mains and railroad's substations situated several miles on either side of the town. The action taking place is shown in Fig. 1.

Further investigation indicated that soil corrosion was also causing pitting on this distribution system. In view of the fact that soil corrosion was active and because we could not purchase a suitable directional relay to control the current flow to our system we decided to install forced drainage on this system rather than establish a return to the railway negative.

After the pipe-to-soil survey was completed the gas system was completely insulated from the water system by removing all bonds and installing formica bushings on the low pressure side of the house regulators. The next step was to bond all insulating joints and all dresser joints. After this work was completed, two ground beds of scrap railroad rail buried about four feet deep in trenches were installed. A 20-volt, 20-ampere rectifier was installed on one bed and a 40-volt, 15 ampere rectifier was installed on the other. It was found by tests that 16-amperes from these two rectifiers maintained the potential of the gas lines at .3 of a volt or more negative to the surrounding soil at all times.

Sufficient connections to the water mains were established through controlled resistances to prevent their damage by our protective current.

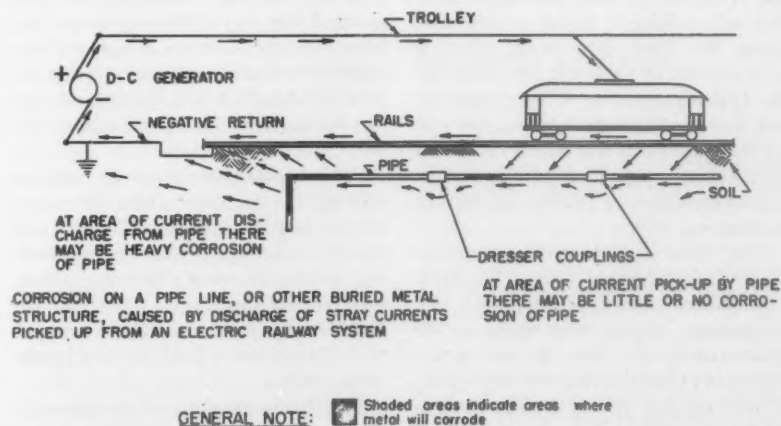


Fig. 1. Current flow direction was affected by relative location of trains and electric bond

Abridged version of a paper delivered before the A. G. A. Distribution, Motor Vehicles and Corrosion Conference, Chicago, April 13-16, 1953.

A directional relay was developed and

[illegible]

The street railway was discontinued in 1937, and immediately our gas system became positive in most areas making it

Our Livingston distribution system is a good example where soil corrosion alone caused extensive pitting. Livings-

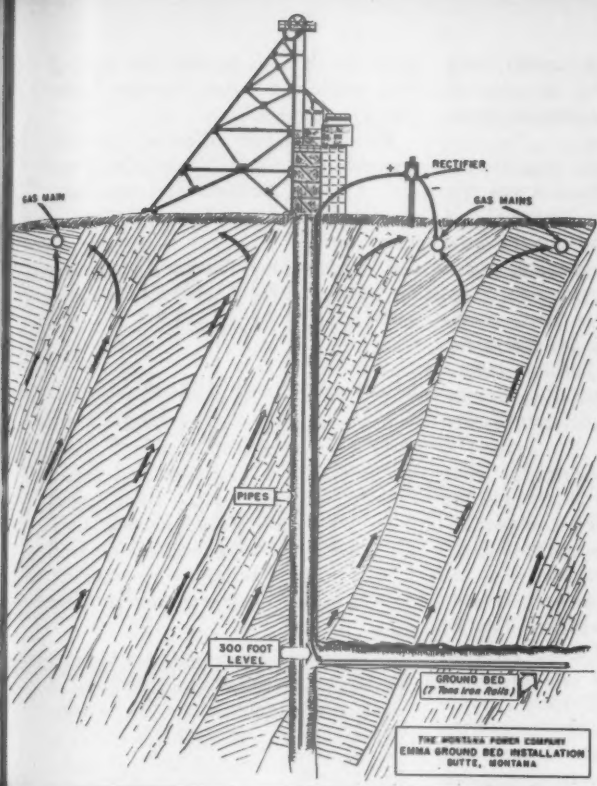


Fig. 3. A ground bed deep in a mine protected gas mains located over an area of about 10 blocks square

ton is a small town built on the banks of the Yellowstone River. The distribution system consists of 30 miles of equivalent three-inch mains. The terrain is flat containing river deposits of sand and gravel imbedded in clay and gumbo soils. The water table varies, which subjects the mains to an alternate wet and dry condition. The original coating was asphalt. The system was completed in 1931 and the first evidence of corrosion was noticed in 1936. Three rectifier units were installed using railroad rail as ground beds installed in horizontal beds and located to protect the worst corrosive areas.

We found that because of the nature of the soil it was not feasible to protect the center of this distribution system by single or even several ground bed locations without extensive power loss. In view of this fact, we designed and installed what we termed a multiple anode ground bed system. We installed a 4/0 feeder on our power distribution poles covering the area. We then drove eight foot steel rails at the base of each power pole in the blocks covered by the 4/0 cable and tied these rails to the 4/0 cable by a No. 6 insulated wire riser. Over the whole area, 84 rails were tied to the 4/0

cable. Using a portable d.c. generator we established the locations of units which would give reasonable coverage. Using this method of anode distribution we were able to use small rectifier units and lower voltages to obtain coverage thus cutting down losses due to over protection near the units. We have since used this type of ground bed system in three other locations, with good results.

Because of the progressiveness of our gas operating engineers and the management of Montana Power Co., we were able to start a protection program on our distribution system long before cathodic protection of distribution systems was common practice. Because we started a protection program before our systems had been badly damaged, we were able to hold our replacements of mains to almost zero and our leak record to a very low figure. We are protecting 492 miles of equivalent three-inch main with an average of 1.68-amperes per mile. The average cost over the last five years for cathodic protection is \$46 per mile of equivalent three-inch.

Due to the relative lack of moisture in our soils and because most of our protective program had been completed before anodes were available in large quan-

ties, we have used very few anodes on our distribution systems although we feel they have a very definite place in a protection program.

We have found that one of the first steps necessary to set up a cathodic protection program for a distribution system is to consult with other local utilities having underground structures, such as the telephone, telegraph and water company, which might be affected by such a program. A joint committee of qualified engineers from each company affected can exchange information which will make all programs more effective.

A summary of Montana Power's experiences has shown that the following points are important in the cathodic protection of a distribution system:

1. It is necessary to have complete supervision by a qualified engineer.
2. It is necessary that the proper instruments be available.
3. The section to be protected must be insulated from other underground systems by insulated joints and bushings, with established controlled points for interchange of current to prevent damage to other systems. The section must have complete electrical continuity.
4. That readings on output of units be examined once a month and adjusted if necessary to maintain correct pipe potential to soil for protection.
5. That pipe to soil potential surveys be made at least once a year and plotted on suitable maps for reference.
6. That proper records of all readings be kept up to date.
7. That it is feasible and profitable to protect large or small distribution systems if the protection is properly applied.

Teamwork available

TEAMWORK—1953, "a roster of all A. G. A. committees for the current year, has just been published. The 106-page booklet lists all committees and subcommittees of the Association; defines the scope of each; lists names and company affiliations of the more than 2,500 men and women who are participating in committee activities; lists Association officers, directors, advisors and staff. In addition, A. G. A. representation in other national organizations is included.

"Teamwork" is a tribute to the contributions to industry and public welfare being made by A. G. A. committee members and the companies who make their services available.

Copies can be obtained from the Publications Department, American Gas Association, 420 Lexington Ave., New York 17, N. Y.

Chicago played host to the fifth National Personnel Conference of the Gas Industry, April 9 and 10, in the Edgewater Beach Hotel. Sponsored by the Personnel Committee, Great Lakes Personnel Conference and Midwest Personnel Conference of the American Gas Association and Employee Relations Section of the Southern Gas Association, the sessions provided an opportunity for 80 executives of gas utilities and pipeline companies to participate in discussions on timely problems, exchange experiences and information—and what seems to be helpful in this field—to become personally acquainted. Delegates came from cities as distant as El Paso, Texas, and Chatham, Ontario, Canada.

James F. Oates, Jr., chairman of The Peoples Gas Light and Coke Co. and an A. G. A. director, set the stage for the conference in his keynote address, "Top Management's Place in an Industrial Relations Program."

Hold annual personnel conference

Mr. Oates' discussion centered around man, whom as he put it, is the real and important segment of any business. In his speech, Mr. Oates, who is recognized for his accomplishments in the field of industrial relations, stressed the inherent dignity of the human being and management's job in preserving that sacred quality.

An industrial relations program must have as its goal the development of mutual understanding, confidence and respect, Mr. Oates declared. These are evolved, he added, from human relationships, which may be bad or good, sound or imperfect, developing or disintegrating. They may be dependent not only on

such factors as health, personality, emotional stability, economic security, religious beliefs, but more importantly on your business philosophy.

The Peoples Gas official reminded the executives that every problem has two approaches to a solution—historical and philosophical. "First find out the facts before you decide what standards or criterion you are going to exercise for judgment," he cautioned. "In fixing standards or values you must believe in the dignity and sanctity of human relationship, you must have confidence in the man and you must also consider his importance."

He suggested that all levels of management must have a sincere interest in each employee as a fellow human being. He added that this philosophy requires incessant attention.

George W. Fewkes, manager, Personnel Department, Philadelphia Electric Co. and chairman, A. G. A. Personnel Committee, presided.

Another speaker at Thursday's morning session was James J. Healy, until recently assistant professor of industrial relations, Harvard University Graduate School of Business Administration and now engaged in full time arbitration work. He reviewed labor developments as they affect the national scene and discussed problems in labor relations. A former vice-chairman of the War Labor Board, Mr. Healy asserted that collective bargaining should be bilateral and not a one-way-street affair. He suggested that management should also submit demands at the bargaining table.

John J. Solon, superintendent, employment department, The Peoples Gas Light and Coke Co., and chairman, A. G. A. Great Lakes Personnel Conference, presided over a luncheon meeting discussion by Irving J. Lee, professor of public speaking, School of Speech, Northwestern University. Dr. Lee, author of several books on semantics, spoke on "Barriers to Communications." He discussed the major obstacles that people encounter in getting ideas across to one another.

Suggests company pay all

At the 3 p.m. session, J. H. Shreiner, vice-president of Towers, Perrin, Forster and Crosby, Inc., offered a realistic approach to the problem of "A Balanced Employee Benefit Program." He suggested that pension plans be on a com-

pany pay-all basis because this type of plan would not reduce the take home pay of employees.

Don A. Hardesty, director, employee and public relations, Natural Gas Pipeline Co. of America and chairman, A. G. A. Midwest Personnel Conference, presided.

Delegates closed the first day's session by getting better acquainted during a social hour.

Study executive development

Friday's proceedings opened with three experts participating in a panel discussion on management and executive development. Eskil I. Bjork, president, The Peoples Gas Light and Coke Co., substituted as moderator for John E. Heyke, Jr., executive vice-president, The Brooklyn (N. Y.) Union Gas Company.

Panelists and their topics were:

Ludlow Shonard, vice-president of Southern Counties Gas Co. of Los Angeles, "The Use of Psychological Tests and Management Selection." Mr. Shonard substituted for W. R. Davis, vice-president and personnel manager, Southern California Gas Company.

Matthew Radom, employee relations advisor, Standard Oil Co. of N. J., "Executive Qualifications and their Development."

Richard Donham, dean of the School of Commerce, Northwestern University, "A Professor's Observations on Management Development."

Following a luncheon session, H. M. Rogers, director of employee relations, Texas Eastern Transmission Corp., and chairman, employee relations section, Southern Gas Association, conducted a roundtable discussion. This was a spirited session with several delegates revealing experiences in industrial relations developments.

Much of the credit for the success of the conference goes to Leslie A. Brandt, vice-president in charge of industrial relations, The Peoples Gas Light and Coke Co., and chairman of the Committee on Arrangements. Kurwin R. Boyes, secretary of the American Gas Association, recalled that other Personnel Conferences were held in 1946 in St. Louis; the second in 1947 in Dallas; the third in 1948 in Chicago, and the fourth in 1949 in Cincinnati.

A pipeliner meets the public



By F. M. BANKS

*Second Vice-President, A. G. A.
President and General Manager,
Southern California Gas Company*

Each of us, in the mind of the public we serve, is the gas company. And those of us who must come in contact with the public can do the greatest harm in creating an unfavorable impression in the public mind—or can be the most constructive in obtaining the public's good will.

One of the most important phases of operating activities is to so conduct them in a way that will gain the good will, confidence, and support of the public.

The problem can be divided into two parts. One is a negative approach: do nothing to alienate the public. The other is positive: do everything to win the public's understanding and appreciation of our efforts in its behalf.

There are many practices sometimes indulged in by men who build and operate transmission lines, compressor stations or storage fields—practices to which the public takes exception. For instance: removing the top of a knoll, or cutting a deep gash in it; destroying irrigation lines; leaving long stretches of open ditch in the public streets so as to impede traffic; misinforming a farmer as to when it is necessary to harvest his crop before construction begins; removing topsoil, causing erosion; leaving gates open so that livestock escape; destroying trees; and damaging bridges.

Some of these acts may be unavoidable, but there is no doubt that many times they are the result of oversight, carelessness, or indifference. Their effect upon a landholder or tenant may be extremely detrimental to the company. Also, their effect is cumulative: one farmer tells another; neighborhood groups become concerned; villages, towns, cities and states are alerted to protect the interests of their residents; and pressure is brought upon congressmen to introduce bills which are not always in the best interests of our industry or the public.

One company which endeavors to build up a feeling of mutual good will between itself and the communities through which its lines pass is the Texas Eastern Transmission Corporation. One method it employs is the distribution of a booklet called "A New Citizen of Your County." In an introduction, the company says: "This booklet has been prepared to provide facts you may want to know about a new business that is

coming to your county. It tells about the company; the essential work it performs; and what it will mean to your county." The booklet says further: "We take our place in your county as a community citizen; we accept the responsibility of a good neighbor; and will assist in the progress of your community." The booklet also states that the company will welcome inspection by the local residents of its operations.

Here is a case where a company has gone to a great deal of trouble and expense to foster friendly relations between itself and a community. But, obviously, it is up to the company's personnel to assure that the program is effective. Anyone reading this booklet could not help but be impressed by the company's attitude; but what would happen if the local residents visited the site of the company's operations and received the wrong kind of welcome? A small matter, of course, but sufficient to undermine the company's public relations and impede its work.

We should take great pains to avoid careless activities for they can build an iron curtain between ourselves and the communities with which we must maintain good relations if our work is to go on.

The other approach to creating a sympathetic relationship with the public is more positive, more creative, and requires more imagination. It consists of actually performing deeds of assistance or cooperation with the people with whom we come in contact. We can thus win for our companies the good will and friendship which no amount of money could buy.

Possibly the first principle to consider here is to know the people with whom you deal: the farmers through whose lands our lines are constructed; the mothers whose children come to watch our trenching machines at work; the school officials near whose playground a compressor station stands; the officials of the communities under whose streets our lines run; the landholders on whose property is a depleted gas well which may be used for underground storage. The friendship of these people is vital to our operations.

There are many companies which are cognizant of the importance of this friendly relationship. Transcontinental Gas Pipe Line Corp., whose lines extend from Texas to New York, each month publishes in its house organ a story on

Abridgement of a paper presented at the Transmission and Storage Conference of the A. G. A. Operating Section, Edgewater Beach Hotel, Chicago, April 30-May 1, 1953.

some community along its right of way. The good will of these towns is important and the company does everything possible to encourage it.

But such action by a company is ineffective unless it is implemented by the men with whom the local residents come in contact. There are many ways by which this policy can be implemented and the men in the field have a unique opportunity to do so.

With the extension of transmission lines across the nation, natural gas is going into communities where it hitherto was unknown. It has created a great deal of public interest. The local residents want to know the characteristics of the new gas; where it comes from; how it gets to the customer; how the lines are built, the gas compressed and pumped through; what it will mean in the way of lower rates; and any possible danger connected with natural gas transmitted under pressure.

Field contact valuable

A transmission company, whose headquarters may be a thousand miles away, cannot send representatives to each community to discuss these matters. But the man in the field frequently can. He can contact local officials, newspapers and schools. He can inform them of the promotional and educational material his company has available, and arrange for such material to be furnished to them. He can arrange visits to fraternal organizations, or invite such groups to visit the site of operations. Many transmission and utility companies have sponsored the production of motion pictures explaining their operations, but their availability is frequently unknown to the groups who would benefit from seeing them. The man in the field can easily arrange for the showing of such films and, by so doing, facilitate his own work and generate good will for his company.

Soil conservation is another factor in creating good public relations. A splendid paper, "Soil Conservation Pays in Pipeline Right-of-Way Maintenance," by Arthur W. Emerson, of the U.S. Soil Conservation Service, appears in the 1951 *Proceedings* of the A. G. A. Natural Gas Department. Here Mr. Emerson describes how a pipeline company cooperated with the Soil Conservation Service in an attempt to control erosion along a thousand miles of transmission lines. While facilitating its own maintenance problems, the company, by aiding farm-

ers, built up a tremendous amount of good will. Mr. Emerson says, "The hostility of the farmer to company field men coming onto his land is fading. With farmer participation in the soil conservation program, the farmer frequently makes repairs on the company's right-of-way just as he does on his own property. This automatically reduces maintenance costs per mile for the company."

It is part of our job to give such assistance. If our work takes us to some community, we become citizens of that community, even though we may not be there any length of time. As citizens, we have an obligation to work always in the best interests of that community. If we perform our work well, there will seldom be a conflict between the community's interest and the company's. The two are usually synonymous. If, however, such a conflict should arise, it is incumbent upon all of us not to protect the interest of one by jeopardizing the good will of the other. Rather, it becomes necessary to proceed with tact and discretion, to reconcile the interests of both company and community.

When a company extends its lines into or through a new area, usually the first contact with the local residents is made by the right-of-way agent. Here, too much stress cannot be laid upon the importance of creating a favorable first impression.

A former vice-president of the Southern California Gas Co., who had a large and distinguished part in the construction of many major gas transmission lines, frequently referred to the good old days of pipelining, some forty years ago in Kansas. A pipeline company then could take several years in planning and constructing a line. The territory was little developed, so that few landowners suffered any material interference. The right-of-way man would often don an old suit of clothes, hire a horse and buggy, and journey to a farmhouse, where he lodged with the farmer and his family for a week before attempting to negotiate a right-of-way.

The method is obsolete, but the principle is as good today as it was half a century ago: get to know the people with whom you deal; establish mutual trust; provide a sound basis for negotiating.

The right-of-way agent is the man who must secure easements for a construction project; but he, in turn, is told what easements he must secure. It is necessary, therefore, that he work closely

with those who are planning the line and it is incumbent upon the planners to realize their limitations and obligations.

The pipeliner, in undertaking to carry out a major construction project finds himself faced with new and greater engineering problems. He has sometimes felt it desirable to demand wide scope in his freedom of operations, such as requiring franchises or permits to enable him to have a considerable choice of location in the public streets, and easements covering a wider strip of land for the location of the pipelines and as a working space during construction. Where a right-of-way 10 feet in width was once deemed sufficient for the construction of a large diameter pipeline, the tendency now is to demand 50 feet, and it may go further. The pipeliner, too, in some projects insists on securing not easements specific as to location, but options of considerable duration which would allow him to pick and choose the location at some time in the future when he has come to a conclusion. This latter practice is not universal; and it is questionable if the deferment of investigation and of reaching a decision as to the location of the line is necessary or productive of good public relations. Certainly it is more difficult to negotiate for broad options than specific easements limited to actual needs.

Watch public relations

The situations which arise as a result of these practices are charged against the pipeliner, who, no doubt, feels that with the serious problems with which he has to contend, it is the duty of others to pacify the public. The truth is that the pipeliner today should be more conscious of public relations than ever before. He should realize that his freedom of action on public highway or private property is limited by restrictions of franchise or easements and can be still further restricted by adverse publicity or public reaction. It is well known, for instance, that entire communities have risen up in protest where projects have been undertaken without adequate consideration of the interest or feelings of the people.

We are living in an ever-changing and uncertain world, faced with serious problems of a political, economic, and social nature. There is still much unreasonable criticism of big business just because it is big. There is criticism of the fact that

(Continued on page 35)

Success of a business enterprise is closely related to the quality of its purchasing and material scheduling operation

Purchasers hold record confab



Opening session speakers were: seated, D. B. W. Brown, Milwaukee, C. W. McVicar, Pittsburgh, J. C. Sims, Brooklyn, N. Y., Purchasing and Stores Committee chairman, who presided, P. H. Butler, Jr., Washington, D. C.; standing, A. E. Altenhofen, Milwaukee, L. R. Michelsen, Chicago, G. H. Smith, A. G. A. and P. E. Ewers, Detroit, Accounting Section vice-chairman



A panel discussion on accounting problems related to purchasing and stores concluded the business of the conference. Panel participants were: C. H. zur Nieden, Philadelphia, who acted as moderator; O. G. Peterson, Ithaca, who presented the accounting viewpoint; C. O. Ellis, Detroit, who discussed the stores angle; and Roy L. Groves, Tulsa, representing purchasing

Milwaukee Gas Light Company recently put out the welcome mat in its role of host company to the National Purchasing and Stores Conference of the American Gas Association which met in Milwaukee, April 13-15. A total of 83 purchasing agents, representing 21 states and the District of Columbia, registered for the sessions at the Schroeder Hotel.

A. E. Altenhofen, purchasing agent for the host company and in charge of local arrangements for the conference reported that this was the largest meeting this group has had to date. Attendance was double that of last year's conference in Memphis.

Following opening remarks by John C. Sims of The Brooklyn Union Gas Co., general chairman of the convention, delegates were welcomed and given a brief outline of Milwaukee's points of interest

by President Dudley B. W. Brown of Milwaukee Gas Light Company.

After enumerating the city's considerable roster of attractions, Mr. Brown pointed out that 1952 marked the beginning of the Milwaukee Gas Light Company's second century of service. The company ranks seventh, he said, among the utilities of the United States distributing natural gas exclusively, and tenth in revenues. "Both of these positions were achieved in a period of only three years of exclusive natural gas service."

The first day's sessions got under way with a discussion of "The Value of a Purchasing Manual to Purchasing and Management" by C. Warner McVicar, director of purchasing and traffic, Rockwell Manufacturing Company. Mr. McVicar outlined the 21 sections comprising Rockwell's manual, telling of the

success they had met through the use of their book.

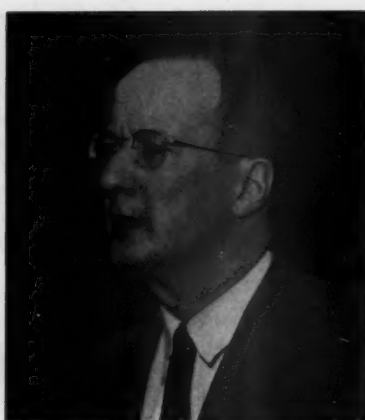
"Every requisition, especially for production material, is a challenge to us to do a better buying job by securing a lower price or securing better value for the money spent," he stated. According to his own experience, a purchasing manual helped Rockwell meet the challenge.

"Purchasing is not only a highly complicated science, but is also a key factor in the success of any business enterprise. If the quality, quantity, cost and delivery schedules on raw materials or parts are not handled by men who know their specialty thoroughly, a company will be unable to compete successfully," he continued.

Stressing the necessity of a purchasing manual in a modern department, Mr. McVicar compared its value to that of a



H. T. Belcher, Consumers Power Co., Jackson, Mich., addressed the Monday afternoon session on "Materials Standardization in the Industry"



Eugene S. Page, American Machine and Foundry Co., speaking at the same session, told how to organize and develop a standards program

sales manual in the sales department, an accounting manual in the accounting department or "any other manual where a definition is required of what is to be done and how it is to be accomplished."

L. R. Michelsen of The Peoples Gas Light and Coke Co., Chicago, in the second talk of the morning, reported on the movement to standardize the packaging of materials used in large quantities by the gas industry. Mr. Michelsen gave the findings of the subcommittee of the Material and Supplies committee, appointed by A. G. A. in 1946 to investigate the subject. The subcommittee was of the opinion that the adoption of standard packages would effect the following advantages: saving of store space, saving of handling time, saving of inventory time, accuracy and safety. As the result of recommendations by the subcommittee, a packaging program was inaugurated in 1950 and since that time a survey of gas companies who have participated in the program has revealed that all the advantages previously mentioned, have been realized. [See page 25, A. G. A. MONTHLY, April, 1953.]

Of particular interest and help to the audience was the outline by Eugene S. Page, special assistant to the executive vice-president, American Machine and Foundry Co., of the organization and development of a standards program.

Mr. Page advised purchasing agents to "know thoroughly every phase of their company's operations," as these have a definite bearing on the development and use of standards for the purchased item. "The purpose of standards and the sole reason for their development and use is to contribute to, or permit the attainment of, the basic business objectives." These objectives to which Mr. Page referred are maximum total profit, the development of markets and sales and, an increase of organizational and operational efficiencies. It was the speaker's belief that companies would gain "lasting benefits and tangible financial savings" from a program of standardization far in excess of any cost of development or administration.

In February of this year, the Subcommittee on Material Standardization in the Gas Industry sent letters to members

of the purchasing and stores committee of A. G. A., asking for comment and information on material standardization. The answers to these questions were summarized and presented to the meeting by Harold T. Belcher, Consumers Power Co., Jackson, Mich., chairman.

Reported functions of the standards group included the setting up of standards in material specifications, equipment and design and the checking to determine that these requirements had been met in the purchase orders and in the goods delivered. Also included is the investigation of new materials on the market to see if they were applicable to a system of standards and the assisting of the operating and engineering departments in the ordering of new items.

Mr. Belcher felt that Mr. Michelsen's statement concerning standard packaging, "takes a bit of doing, but it's worth the effort." He expressed the belief that the same approach could be applied to a program of material standardization and result in great savings.

The second day's sessions opened with slides depicting the handling of material, directed by R. I. Highgate, Memphis Light, Gas and Water Division.

A panel discussion on accounting problems related to purchasing and stores concluded the business of the conference, allowing ideas to be interchanged and opinions offered and discussed. The third and final day was devoted to a tour of the city, the breweries and the A. O. Smith Corporation. The latter is the world's largest manufacturer of pipe and the supplier of the thousands of miles of pipeline needed to bring natural gas from the Hugoton fields in Texas to the Milwaukee area.

Favorable comments were heard from all sides concerning the success of the convention and the splendid job Milwaukee Gas Light Co. performed as host company.

Directory of Customer Accounting Methods and Equipment ready

A joint project committee of the EEI-A. G. A. Customer Accounting Committees has prepared a *Directory of Customer Accounting Methods and Equipment* in connection with the committee's project assignment. A summarization of this directory was presented at the National Conference of Electric and Gas Utility Accountants in Chicago, Ill., during the conference period April 20-22, 1953.

This directory was prepared as a reference manual, to present concisely the principal customer accounting methods and equipment used throughout the industry. It is intended to provide a basis for comparison by companies operating under like conditions and to point out the practices and trends within such groups. The directory follows the pattern of a similar directory published in 1950. Completed questionnaires for inclusion

of data in the directory were received from companies in forty-six states, Puerto Rico, Hawaii and Canada.

Copies of the directory have been mailed to each of the companies which responded to the questionnaire. A limited number of copies are available at American Gas Association, 420 Lexington Ave., New York 17, N. Y., and may be had upon request to the accounting director at that address.

Growth of restaurant business and of production processes best suited to use of gas, highlight selling opportunity

Stress sales to bulk users

Many of the highlights of the 1953 Sales Conference on Industrial and Commercial Gas were shown by speakers from outside of the gas industry who, familiar with the plus-value of gas, suggested steps that would increase its use. The conference was held at the Hotel Warwick, Philadelphia, April 13 to 15. Nearly three-hundred gas utility men and equipment manufacturers registered, to make it the best-attended to date. The comprehensive agenda included full discussions of current sales, service, manufacturing and utilization problems.

The growth of the restaurant business during the last two decades, to its present half-million public eating places and its rank of fourth largest among the country's industries, was cited by J. Fred Vollmer, vice-president, Stouffer's, Philadelphia, and president, National Restaurant Association. With costs rising in the restaurant field, he cited better cooking equipment as one means of reducing expenses. Mr. Vollmer urged gas cooking equipment manufacturers to take the initiative and upgrade their equipment so that only the best would be available to the trade.

Bryce C. Roby, president, Goodner-Van Co., Tulsa, and president, Food Service Equipment Industry, Inc., explained that dealers welcome any sales effort by utilities. Mr. Roby pledged full cooperation by his organization in the coming PEP (Performance, Economy and Profit) commercial cooking promotion.

At the end of the Monday morning general session, "Cy" Frailey, "The Man in the Red Coat," emphasized that it is not enough for a gas salesman to know his own business and that of his competi-



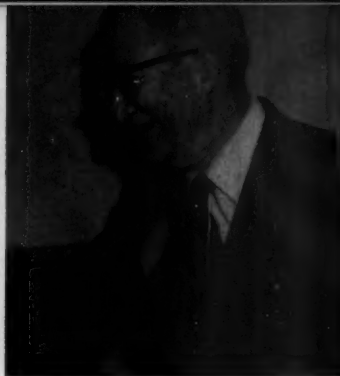
Past Chairman R. A. Maloney, Bridgeport, Conn. and Chairman Terry Hart, Nashville, honor each other's Industrial and Commercial Section leadership by a mutual exchange of gavels



R. S. Chapman, Atlanta, Food Service Equipment Committee chairman, presided at opening session, at which J. Fred Vollmer, Philadelphia, and Roy E. Wright, Cambridge, Mass., spoke



Hudson W. Reed, vice-president and general manager, Philadelphia Gas Works Div., gave host company greetings to delegates



L. E. "Cy" Frailey, Columbus, Ohio, inspirational speaker on "Horse Sense in Sales," was caught in a moment of levity



Wednesday morning W.M. Clelland, Westfield, N.J., spoke on spray drying and Carl P. Mann, Philadelphia, discussed advances in high speed ink drying



A lively panel discussion of the merits of automatic lighting for commercial equipment was led by: James J. Condon, Chicago; E. J. Horton, Youngwood, Penna.; Terry Hart, Nashville, Section chairman, who acted as moderator; Paul Inskeep, Detroit; and Tracy B. Madole, St. Louis



Boyce C. Roby, Tulsa, Monday afternoon speaker, pauses with Section Vice-Chairman Charles C. Eeles, who presided

tors: He must also know people, have a confident and friendly approach, and be assured that the prospect wants or can profit by purchasing. It boiled down to the title of his talk, "Horse Sense is Sales Sense."

During his discussion of spray drying, William M. Clelland, consultant, pointed out that it has many applications which can be offered certain producers.

Dr. Alfred C. Mueller of the duPont Company explained the problems of "Heat Applications in the Chemical Industry." He cited several examples where gas fuel could be economically applied and presented tabulations to illustrate how his company arrived at costs of operations to determine the choice of fuel for a particular processing operation. The facts he presented indicated the wisdom of giving more time and effort to getting gas and gas equipment accepted in original plant designs.

Manufacturers of both industrial and commercial gas equipment had a prominent place with gas utility men throughout the three-day session. James J. Con-

don, The Peoples Gas Light and Coke Co., Chicago; E. J. Horton, Robertshaw-Fulton Controls Co., Youngwood, Pa.; Paul Inskeep, Detroit-Michigan Stove Co. and Tracy B. Madole, Magic Chef, Inc., St. Louis, participated in a lively panel discussion of "Automatic Lighting of Commercial Equipment." Consensus of opinion was that, while automatic lighting was desirable, it should not now be made mandatory. It was generally agreed that the decision should come from customers' demands.

Analyze Code of Ethics

A. V. Leudemann, Mears-Kane-Ofeldt, Inc., analyzed the GAMA Code of Ethics for Industrial Gas Equipment Manufacturers. The custom built nature of commercial equipment precludes adherence to a set of rigid approval requirements, and this code was designed to be to that equipment what the A. G. A. Seal of Approval is to home appliances.

Carl P. Mann, Selas Corp. of America,

Philadelphia, described and showed with slides the new gas applications for ink drying on high speed printing presses. More and more the printing industry is utilizing this method to speed production. He stressed the value of this gas load and urged full cooperation with printers in having this type of drying installed on their presses.

Speaking on "Gas Applications in the Glass Industry," Arthur H. Navarre, Surface Combustion Corp., Toledo, pointed out that almost every community of reasonable size has some glass processing industry. It is here that the industrial gas engineer can be of material aid in the application of properly engineered gas equipment for glass processing.

The several gas industry speakers slanted their talks toward building sales of gas and gas equipment. R. S. Chapman, Atlanta Gas Light Co., and chairman of the Food Service Equipment Committee, emphasized that gas cooking equipment should be sold on the value of its performance capabilities. Competitive equipment costing much more than gas

Industrial Gas Day program participants were Dr. Alfred C. Mueller, Wilmington, Del., Carl Wierum, Brooklyn, N. Y., Arthur H. Navarre, Toledo, Lawrence R. Foote, Cleveland

Robert C. LeMay, Philadelphia, J. Mason Guillory, New Orleans, James J. Condon, Chicago, Merrill H. Douglas, New York, R. Lloyd French, Chatham, Ontario and John C. Dorsey, Cleveland (not present) were inducted into the Hall of Flame

Among head table guests at the formal luncheon were Thomas Evans, Pittsburgh, George E. Whitwell, Philadelphia and Dean H. Mitchell, Hammond, Ind., who presented the only address

Assembled delegates learn "What's Newest in Commercial Processing," from David M. Barrett, Washington, D. C., Sydney J. Cooper, Hackensack, N. J., Charles C. Eales, Toledo, Section vice-chairman, who presided, John D. Haverkamp, New Orleans, George E. Marble, Detroit

equipment is being sold, so that price competition does not enter into the picture to any great extent, he said. "It's performance that counts."

Roy E. Wright, NEGEA Service Corp., Cambridge, Mass., told how the A. G. A. Laboratories developed the new deep fat fryer and how it was instrumental in having several manufacturers upgrade their equipment.

In the field of commercial processing, a panel discussion disclosed many applications that the gas salesman could institute in his community. Panel participants were: David M. Barrett, Washington (D. C.) Gas Light Co.; Sydney J. Cooper, Public Service Electric and Gas Co., Hackensack, N. J.; John D. Haverkamp, New Orleans Public Service, Inc.; and George E. Marble, Michigan Consolidated Gas Co., Detroit. Their respective papers on "Air Conditioning and Rug Drying," "The New Look in Vocational Education," "The Ideal Fuel for Retail Bakers" and "Incineration" highlighted the possibilities of increased commercial business in these fields.

The general session, Tuesday morning, opened with a cordial welcoming address by Hudson W. Reed, vice-president and general manager, Philadelphia Gas Works Div., United Gas Improvement Co. and a former A. G. A. president.

The aims of the Industrial and Commercial Gas Section's advertising and publicity program were detailed by A. C. Evans, account executive, Ketchum, MacLeod & Grove, Inc., Pittsburgh. He used a series of descriptive slides to show how the different types of advertising were developed and how they appeared finally in the trade publications.

Foresees sunny future

"The Future of Industrial Gas," originally to have been presented by A. W. Conover, president, Equitable Gas Co., Pittsburgh, was given in his absence by Thomas Evans, vice-president. "The challenge to . . . making sales in the industrial gas markets . . . can only be met by men . . . able to understand and apply the management viewpoint," he

said. Predicting the future of industrial gas he concluded, "If you can control your supply, if you know your markets and costs, and if you develop a thoroughly trained, completely informed sales force, your company's outlook for industrial gas sales will be 'sunny and bright with clear skies ahead!'"

George E. Whitwell, vice-president, Philadelphia Electric Co., set his audience to thinking when he pointed out that over two-thirds of today's salesmen had never sold in a free economy. About half of our population has not experienced adult life during a reign of peace. The thousands of salesmen born since 1911 need to learn an entirely new approach to meet today's buyers' market.

Highlight of the conference was the graphic luncheon presentation of the Gas Industry Development Program, by Dean H. Mitchell, president, Northern Indiana Public Service Co., Hammond, and chairman of the responsible committee. He set forth the 15 recommendations developed by the Gas Industry Development Committee and showed that while

originally intended for residential gas, each point could be fitted into an industrial and commercial gas program.

Another aspect of industrial selling was presented by Carl Wierum, The Brooklyn (N. Y.) Union Gas Co. and Lawrence R. Foote, Bryant Industrial Division, A.G.E., Inc., who presented the cases for the gas utility and the manufacturer, respectively. They were in accord that service should be rendered—some by the utility and some by the manufacturer, depending on the particular situation, the locality and the availability of utility and manufacturer representatives.

The proposed A. G. A. Performance, Economy and Profit Commercial Cooking Campaign was described by Hayes Wal-

ter of A. G. A. Headquarters. He cited the experience of the companies that entered into last year's Proof of Profits Campaign and showed how each enjoyed a marked increase in equipment sales as a result.

Six new members of the Industrial and Commercial Hall of Flame were inducted during the ceremonies traditionally held at the spring conference. These men have attained the necessary 25 points, through service in the Industrial and Commercial Gas Section, to qualify for life membership in this exclusive organization. They are: James J. Condon, The Peoples Gas Light and Coke Co., Chicago; John C. Dorsey, The East Ohio Gas Co., Cleveland; Merrill H. Douglas, Vulcan-Hart

Mfg. Co., New York; R. Lloyd French, Union Gas Co. of Canada, Ltd., Chatham, Ontario; J. Mason Guillory, New Orleans Public Service, Inc.; and Robert C. LeMay, Selas Corp. of America, Philadelphia.

F. T. Brooks, Philadelphia Electric Co., is chairman of the Program and Papers Committee which planned the agenda of this conference. Each of the three morning sessions was presided over by Terry Hart, Nashville (Tenn.) Gas Co., chairman, A. G. A. Industrial and Commercial Gas Section. Charles C. Eeles, The Ohio Fuel Gas Co., Toledo, section vice-chairman, took the chair during the afternoon sessions.

Autumn campaign to spur commercial gas sales

During September, October and November the gas industry will stage a nation-wide Commercial Cooking Sales Campaign that promises to be "bigger and better than ever!" The stage is set and the play will start with a cast of the "Who's Who" of gas companies and gas appliance manufacturers.

The campaign has PEP—for Performance, Economy and Profit—as its slogan and theme. This ties in perfectly with the widely used and popular words "Only Gas—," i.e., "Only Gas Offers Top Performance, Greatest Economy and Highest Profit."

The drive will be three-pronged, combining the efforts of gas companies, appliance manufacturers and restaurant equipment dealers. They will have the mutual objectives of replacing obsolete and competitive commercial cooking equipment with new modern automatic gas appliances.

A. G. A. national advertising in trade publications will stress the Performance, Economy and Profit theme and urge restaurateurs to profit by installing new modern automatic gas appliances. Special direct mail folders and letters for mailing to customers, equipment dealers and their salesmen will be available to member companies. New presentations and demonstrations are planned to be available for the campaign.

Special dealer store displays will be printed by A. G. A. for purchase at cost by member companies to use in setting up attractive dealer store and window displays. Complete instructions for conducting a campaign including a timetable

of operations will be included in the campaign brochure that will be mailed to industry members in mid-June.

Much greater and much more active participation by member companies is expected this year because of the splendid results achieved by those who conducted commercial cooking sales campaigns in 1952. Typical is the instance of one company which replaced 165 competitive appliances during a two-month intensive sales drive. The total expense, including liberal service allowances, was somewhat under \$1,000 and it was estimated the added annual gross revenue from the new appliances would total \$12,000.

Sales rose against trend

Another company's campaign resulted in the sale of two thousand extra commercial appliances over and above the normal business volume for that period. This unusual increase was all the more significant because appliance sales nationally were down during that time. It is well to note, too, approximately one thousand extra water heaters were sold to restaurants during the campaign. The total campaign cost, including generous prizes of expense-paid convention trips as well as a number of sizeable defense bonds, totaled \$4,100.

Every company that had a commercial sales campaign last year showed an impressive sales improvement.

One manufacturer showed an increase of 158 percent in one city during the three months the gas company conducted a campaign. And, as proof of the effec-

tiveness and carryover value of this special sales effort, this manufacturer had a 300 percent sales increase in that city during the six months following the campaign. This was at a period when national sales were below that of the previous year.

It all adds up to the fact that a company's commercial revenue can be increased even though one might think his company has all the load now. All a utility needs is a lusty appetite for more business and a drive to get on its meters the added appliances that are useful and profitable to its customers.

One commercial manager said that a thorough canvas of eating establishments to determine the degree of saturation of gas-versus-electric appliances would bring home the hard cold facts of what competition is doing to the gas load. That canvas then could be used as a guide to sell additional and needed appliances as well as to drive at replacing competitive appliances.

A commercial sales campaign spurs the commercial department and the salesmen into putting forth greater effort as well as into attempting to reach higher sales levels. Also, both dealer and manufacturer salesmen are stimulated by an aggressive and energetic campaign. In addition, the replacement of old and obsolete gas equipment is insurance against inroads by competitive fuels.

Commercial appliance manufacturers have promised to stress the campaign theme in their national advertising. Also, it is expected that the interest of the manufacturers in this campaign will be ex-

pressed by the offering of special promotional material to gas companies and dealers as well as the furnishing of individual dealer store display material.

Another and important feature is the proposal of appliance manufacturers to organize sales task forces to go into cities where the gas companies are going to conduct sales campaigns. These sales task forces will conduct dealer sales training clinics, pep meetings and demonstrations and otherwise aid the gas

company in the "kick off" of a campaign program.

Much of the success of a local campaign depends upon the cooperation and enthusiastic backing of the dealers. Hence a special effort will be made to enlist their support and active participation by citing case histories of the sales increases shown by dealers who conducted individual campaigns and sales prize contests concurrent with the gas companies' programs last year. As an in-

stance, one dealer sold 77 fryers instead of an estimated 20 fryers during a two-months campaign.

Viewed from all angles, the proposed PEP Commercial Cooking Sales Campaign is a sound and sensible plan for practically every gas utility—including combination companies—to get added commercial cooking and water heating load.

Residential Section promotes all-year gas air conditioning

All-year, all-gas air conditioning and house heating is being promoted during May and June by the American Gas Association. The campaign is being conducted in cooperation with Servel, Inc. Two new advantages this year are a new two-ton unit for the small homes market, and a truly competitive price.

Utilities and dealers now can build more sales in response to the demand for gas air conditioning which has been greatly increased in recent years. Spearheading this sales drive, A. G. A. is making available a full promotion kit, booklets and newspaper art elements.

The package of colorful display units comprises: two 16-inch x 30-inch easel back display cards, "Silent All-Gas Air Conditioning," and "All-Gas Air Conditioning," both featuring the slogan "Perfect Weather All-Year." Also included are two 12-inch x 60-inch banners with similar messages. These four dis-

plays cost \$3.45, parcel post prepaid.

Two of the "Big 10" booklet series tying-in with this campaign are "10 Ways to Make More Money and Make Your Money Work More" and "10 Ways to Take A Year-Round Vacation With Gas Air Conditioning." These colorfully illustrated booklets relate the advantages of the gas flame that heats—and cools. Among many versatile uses, the booklets may be used as self-mailers; for counter pick-ups on sales floors and in dealers' sales rooms; and as general giveaways. They cost 4½ cents each, from 100 to 999; 4¼ cents each from 1,000 to 9,999; and four cents each for 10,000 and more. A discount of 1½ cents each booklet will be given to PAR Plan subscribers.

Another salesmaker is a handy pocket-size book, "Air Conditioning Sales Maker," which contains intensive information for specialty salesmen on how to sell all-year air conditioning. Individual

copies of this manual are 15 cents while 10 or more copies cost 10 cents each.

Utilities and dealers further may link their display and direct mail promotions with local newspaper advertisements. The American Gas Association offers a mat service which contains a compact variety of art elements in many sizes, enhanced by suggestions showing how these units can be arranged as a complete series of six layouts. These elements also can be used for production of direct mail pieces. A complete set of mats costs eight dollars. Also available are promotion portfolios (without enclosures), and broadsides, costing five cents each.

Display kits, booklets, mats and portfolio sets all can be ordered from the Promotion Bureau, American Gas Association, 420 Lexington Avenue, New York 17, N. Y. The campaign is being conducted in cooperation with Servel, Inc.

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(Continued from page 28)

some business concerns make a profit, although this country was built upon the profit system. There is criticism of the gas industry because, while to a considerable extent regulated, it is still a monopoly. There are people who would advocate the transference of gas industry operations from private hands into the hands of government.

In many states during the past few years bills have been introduced in legislative bodies which would give public utility commissions the power to tell our companies how pipelines and other facilities should be constructed and operated. These bills were in response to a demand from the public, a demand based upon the fact that, in these areas, the public

did not trust the companies to take all action possible to insure safety in their operations. A similar bill has been introduced in Congress, for the same reason. In many areas, companies badly in need of rate increases have had their applications denied, or postponed, or delayed because, in hearings, members of the public gave testimony adverse to the companies involved. This testimony in some cases was based, not upon fact, but upon dislike or distrust of the company, due to poor public relations. In some cases, this ill will was generated or encouraged by competitors, who broadcast false or misleading information.

Whether based upon fact or fantasy, the ill will of the public must have a detrimental effect upon gas companies and upon our industry. And, ultimately, whatever affects our company, affects us

as individuals. Therefore, it is necessary for every member of our industry to take any and all action possible to secure public support and friendship.

The people of this country hold great power. And as long as the public has the power to control, limit, hamper or restrict our operations, it is necessary that it have a knowledge of the services we render and a sympathetic understanding of our problems. Then we can be assured that the public will not exercise its power to our mutual disadvantage.

Those of us who come personally into contact with the public have a unique opportunity to spread the story of the gas industry; of its achievements; its services; its aspirations; of what it has done and what it is doing in the public's behalf. For only with public support can the gas industry progress and prosper.

*Reports of technical developments and of plans
for further expansion of the field occupy gas distribution men*

Study operational procedures

As an indication of the keen interest of a vital industry, over a thousand gas men attended the A. G. A. Distribution, Motor Vehicles and Corrosion Conference, Hotel Sherman, Chicago, April 13-16, to hear 93 authoritative speakers report on technical developments and future plans in their field.

From the bang of the gavel that opened the initial general session, until the adjournment of the last luncheon conference, nearly eighty hours later, gas men spent much time listening to and discussing papers designed to improve their operational procedures.

The initial session was presided over by John M. McCaleb, Columbia Gas System Service Corp., Columbus, Ohio, and chairman of the Distribution Committee.

James F. Oates, Jr., chairman, The Peoples Gas Light and Coke Co., Chicago, expressed the view that our economy will not suffer if we succeed in our peace efforts. Quoting from the recently published General Motors Corp. annual report, he agreed with the view expressed there that there will be continued ample industrial activity and a continued high standard of living.

Mr. Oates pledged the gas industry to the maintenance of a high level of quality and of promotion and product development. Speaking as the chairman of the host utility, he invited conferees to visit the facilities of The Peoples Gas Light and Coke Company during their stay in Chicago.

A. G. A. Managing Director H. Carl Wolf defined the great and rising importance of the gas industry in the national economy. He went on to describe the Gas Industry Development Program, which A. G. A. and GAMA are jointly



Opening session leaders were H. Bruce Andersen, Philadelphia, 1952 Section chairman; J. M. McCaleb, Columbus, Ohio, Distribution Committee chairman, who presided; Dr. Channing W. Wilson, New York, more, Section chairman; James F. Oates, Jr., Chicago; and H. Carl Wolf, A. G. A. Headquarters.

initiating to promote the increased use of gas and to build the sale of gas appliances. Pointing out that the program could attain its ultimate goal only with thorough support, he asked the full cooperation of all gas men in carrying it through.

Thomas Lee Robey, coordinator, research, A. G. A. Headquarters, reviewed research functions of the Association under the sponsorship of the Promotion, Advertising and Research Committee. Research, he pointed out, has been a continuous activity of the Association since 1925, but not until the organization of the PAR Plan was it organized as an effective tool for the betterment of the industry.

In this research work PAR acts as a trustee for the industry and is ably supported by the General Research Planning

Committee and the four main underlying Research Committee (Domestic, Industrial and Commercial, Pipeline and Gas Production), which are in turn aided by technical advisory groups. Through this liaison, the research program is made responsive to the needs of the industry.

New organizational plans, to effectuate designation of information between the Gas Production Research Committee and the Operating Section, were described by Mr. Robey. This year's program, he said, consists of 47 projects, 11 of which are new, while the others are continued from 1952. He emphasized the importance of the projects on research in conjunction with ASA Code for Pressure Piping, Production of Substitute Gases, Demonstration Units of the Domestic Range and the initiation of research on incinerators.

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G. Segeler, A. G. A., F. J. Pluke, Rochester, N. Y., J. M. McCaleb, Columbus, Ohio, N. A. Manfred, Joliet, Ill., P. W. Geldard, Toronto, Canada, Fred Peters, and Harold Hovland, Seattle, headlined the Tuesday general session

An audience question evoked varied reactions, during the Thursday morning general session from P. W. Geldard, W. K. MacMahon, Washington, D. C., James Webb, N. Y., John M. McCaleb, John H. Glamser, Tulsa, Thomas F. Wolfe, Chicago, E. G. Watkins, N. Y.



M. McCaleb, Theodore L. Preble, New York, discussed fleet management at Wilson, Mo. Wednesday general session and Carl R. Davis, Butte, Headquarter a case history of his company's cathodic protection work



Also on the Wednesday general session program were O. R. Terry, Ernest S. Beaumont and J. C. Baxter, Chicago; John M. McCaleb and P. W. Geldard. Messrs. Terry and Baxter, American Telephone and Telegraph Co., demonstrated gas hazards in manholes

"The PAR research program is seeking and finding answers toward improving appliances, processes, competitive position and economies," said Mr. Robey. "Your continued, and I urge, increased support will, I promise you, get answers to your problems."

The work of the Special Committee on Safety, reported Chairman H. Bruce Andersen, Philadelphia Gas Works Division of the United Gas Improvement Co., has emphasized the need for a set of basic minimum standards for a few elements of distribution system design. In addition, he said, "in setting the standards, recognition must be given to differences, justified by local differences, chiefly those of climate. We should be able to resist the imposition of standards which are not warranted, even though seemingly desirable. With the thought

plainly in mind that the value of a human life cannot possibly be measured in dollars and cents, I feel justified in drawing the parallel that the abolition of 'grade crossings' would save many lives; yet many of them exist, and their existence can be justified. To the extent that we ourselves participated in preparing the standards, we will find it possible to follow them the more easily."

During 1952, the gas industry gave its greatest-ever support to safety and accident prevention program, said F. H. Bunnell, chairman, Consumers Power Co., Jackson, Michigan. As chairman of the Special Committee on Specifications for Operation and Maintenance of a Gas Distribution System, Mr. Bunnell delivered the report of that group. Therein he described the A. G. A.-American Standards Association cooperation in the drive

to better the gas industry accident record, and told how three successive drafts of the proposed code had been prepared for submission to member companies; the third, he said, is to be mailed to them within a few days.

Many of the safe practice rules included in the proposed draft were derived by analysing accidents and spelling out the steps that will prevent their repetition. Due to varying local conditions, these rules are expressed in general terms. Operating procedure rules must supply the proper local interpretation, Mr. Bunnell explained.

Frank S. G. Williams of Taylor Forge and Pipe Works, and chairman, ASA Sectional Committee B31, outlined the operations of the Americans Standards Association, and in particular, the methods and procedures under which his

committee functions. This committee of approximately sixty men has been working since July, 1952 on a comprehensive revision of the American Standards Code for Pressure Piping, Section 8, dealing with gas transmission and distribution piping. Mr. Williams described this activity as "one of the most constructive pieces of technical work in the history of the American gas industry."

The scheduled agenda of the Monday morning general session concluded with the Report of Subcommittee 8 of ASA Sectional Committee B31, delivered by F. G. Sandstrom, Consolidated Edison Co. of N. Y., Inc., chairman of the Sub-Group on Distribution. Mr. Sandstrom explained that A. G. A., in cooperation with the American Society of Mechanical Engineers, appointed this Subcommittee 8 to revise the existing code ASA B31.1.8-1952, "Gas Transmission and Distribution Piping Systems."

Since the appointment of this committee, the scope of its work has been increased to cover the design, construction, testing, operation and maintenance of the gas system where safety is involved. The Subcommittee's work has progressed to the point where a preliminary draft of code changes will be completed in a few weeks, said Mr. Sandstrom.

The Subcommittee's membership of approximately seventy men was selected to cover a cross section of the gas transmission and distribution industry, as well as associated industries. Mr. Sandstrom explained. The public interest is also covered by representation from the Bureau of Mines, Bureau of Standards, Federal Power Commission and state utility commissions and insurance associations.

Mr. Sandstrom predicted that, when the code is published by the American Standards Association, many states and municipalities and the Federal Power Commission will include it in their regulations. "It is expected," he said, "that a carefully prepared code, published by ASA will meet the requirements of these authorities."

Called upon for an impromptu comment, Dr. Channing W. Wilson, Consolidated Gas Electric Light and Power Co. of Baltimore, and chairman of the A. G. A. Operating Section, told of the section's current expansion, diversification and reorganization programs. The changes, he said, involve the formation of four or five new committees, the reorganization of some committees and the expansion of the scope of others.

The Customer Service Committee luncheon, Wednesday, was led by: sitting, J. J. Gagen, New York; W. W. Gillis, Jr., Washington, D. C.; J. G. White, Chicago; standing, W. H. Weber, Brooklyn, N. Y.; C. L. Ruff, Detroit and G. B. White, Minneapolis



Seated at the speakers' table of the Construction and Maintenance Committee's Thursday luncheon were: H. M. Blain, New Orleans; D. E. Barthel, Flint; K. W. Pearson, Minneapolis; R. I. Amson, New York; and N. P. Peifer, Pittsburgh



Distribution Design and Development Monday luncheon leaders were: H. A. Anderson, Syracuse; C. A. Brown, Rochester, N. Y.; F. G. Sandstrom, New York; G. D. Mack, Washington, D. C.; V. F. Bittner and G. A. Morgan, Chicago; B. E. Hunt, Decatur; E. F. Trunk, St. Louis; and M. S. Dayid, Boston



The general sessions of the second day of the conference was presided over by P. W. Geldard, The Consumers' Gas Co. of Toronto, Ontario, Canada, and vice-chairman of the Distribution Committee. He first introduced Fred Peters, New York State Electric and Gas Corp., Ithaca, who discussed the choice of meters to handle fluctuating gas loads. The "metering of fluctuating gas loads begins with the small domestic customer and . . . exists in practically every application . . . up to the measurement of gas supplies for the large cities. . . . There is no set standard for every installation and each . . . must be considered independ-

ently." Mr. Peters went on to analyze the potentialities of each of the three most widely used types of meters available and to describe the conditions under which each—or a specified combination—would be the best choice.

In a comprehensive discussion of the "Factors Involving Design of Odorizer Installations," N. A. Manfred, Chicago District Pipe Line Co., Joliet, Ill., examined the considerations that must be met in preparing to odorize natural gas. Explaining that odorizers are either of the evaporation or the injection type, he went on to describe the advantages of each and the methods of utilizing them.



At the speakers' table of the Tuesday Meters and Metering luncheon conference were: Parker S. Anderson, Detroit; J. T. Stone, New Orleans; S. C. Brophy, Chicago; H. S. Houghton, Detroit; Gilbert Estill, Tulsa; and James Chrisman, Cleveland



Speakers and chairman of the Thursday luncheon conference of the Committee on Plastic Pipe Standards view a display. Seen are W. G. Swiss-helm, Cincinnati; G. G. Dye, Los Angeles; A. D. Simpson, Jr., Houston; and J. F. Fugazzi, Denver



The Tuesday Motor Vehicles luncheon conference heard W. E. Albright, Philadelphia; W. W. McCarmey, Cleveland; R. O. Babcock, New York, who presided; and Joel Dean, New York, spoke on "Motor Vehicles Capital Expenditure Management"

pared by the Customer Service Responsibility Committees and approved by the Executive Boards of both A. G. A. and GAMA. In the proposed policy, each group was urged to take five specific steps, all aimed at assuring continued customer satisfaction.

Tracing the development of industrial x-ray as an inspection method, Harold Hovland, president, Industrial X-Ray Engineers, Seattle, pointed out that "Designers accustomed to using heavier plate as a safety factor have found that by the use of radiography they can control the fabrication and assure soundness with lighter weight materials. If properly used, there is no doubt that radiography can accomplish the same thing in pipeline construction."

The Wednesday morning general session opened with a comprehensive working-scale-model "Demonstration of Gas Hazards in Manholes," conducted by O. R. Terry and J. C. Baxter, American Telephone and Telegraph Co., Chicago. They depicted the dangers of failing thoroughly to blow gas pockets from all parts of manholes, and showed graphically the importance of testing all areas. Dramatic miniature explosions, carried on in the darkened auditorium, highlighted the demonstration.

Presenting the "Principles of Fleet Management," T. L. Preble, Tide Water Associated Oil Co., New York, emphasized: 1. The need to overcome the lack of understanding by senior management of the intricacies and the importance of fleet management from a standpoint both of cost and public relations; 2. The resultant need of employing professionals to direct the job; and, 3. The need to aid some otherwise highly competent operators in impressing management with the importance of their functions.

Carl R. Davis, Montana Power Co., Butte, rounded out the session with a case history of cathodic protection for the underground gas lines of that utility. [Mr. Davis' paper appears on page 23 of this issue.] John M. McCaleb, chairman, Distribution Committee, presided at the session.

Four speakers and a motion picture film constituted the Thursday morning general session, under the chairmanship of P. W. Geldard, vice-chairman, Distribution Committee. James Webb, Consolidated Edison Co. of N. Y., Inc., describing the "Proper Handling of Gas Meters," emphasized the importance of a "continuous educational program . . .

The methods of creating a pressure drop to obtain a responsive actuating force, the choice of an orifice size and the proper location of orifice plates were brought out by Mr. Manfred. "Simplicity of installation details is desirable," he said, and "automatic devices should be held to a minimum." He described in detail the precautions necessary to make a satisfactory joint and told of the steps necessary to vent odor-saturated gases, when it becomes necessary to open odorizer tanks.

At the same session, C. George Segeler, utilization engineer, A. G. A. Headquarters, presented a "Survey of Industry

Servicing Policies." He suggested that each gas utility company investigate whether appliances are being installed in such a manner as to assure customer satisfaction. He cited examples and showed illustrations that indicated that as many as one installation in seven had significant faults.

Mr. Segeler reports that the industry as a whole—to a degree higher than most A. G. A. members realized—accepted the responsibility for customer service work. He read a suggested customer service policy that has been proposed for adoption by gas companies and by appliance manufacturers. The policy was pre-

throughout the organization and . . . the proper facilities for handling meters. . . ."

J. H. Glamser, Oklahoma Natural Gas Co., Tulsa, reviewed the techniques of "Control of Dust in Gas Distribution Systems," from the viewpoints of manufactured, straight natural and fully or partially converted gas companies.

"Policies in Replacement of Distribution Mains and Services," by William K. MacMahon, Washington (D. C.) Gas Light Co., was based on the results of a study of 20 companies, conducted by the Subcommittee on Construction and Maintenance. These companies range in size from 39,000 to 1,300,000 meters and are situated from California to Massachusetts and from Texas to Michigan. Findings are set forth in 30 graphs.

E. G. Watkins, Consolidated Edison Co. of N. Y., Inc., chairman of the Subcommittee on Cast Iron Pipe Standards, reported that in the past year three cast iron pipe standards have been approved by ASA. These standards were sponsored by the A. G. A., together with other interested organizations. The Cast Iron Pipe Standards Committee has been assigned the problem of standardization of gasket material to be used with cast iron mechanical joint pipe, he said.

A motion picture film depicting the manufacture of cast iron pressure pipe concluded the Thursday morning session. It was presented by Thomas F. Wolfe, managing director, Cast Iron Pipe Research Association, Chicago.

Thirteen off-the-record luncheon conferences and four open morning or afternoon conferences were devoted specifically to the problems of the various divisions and committees.

The Monday Customer Service Subcommittee luncheons was presided over by its chairman J. G. White, of The Peoples Gas Light and Coke Co., Chicago. Programmed to the "Introduction and Operation of a Training Program for Appliance Servicemen," the luncheon discussion topics included determination of manpower requirements, hiring practices, indoctrination, formal school training and training assistance by manufacturers. Discussion of these topics was led by J. MacLarty, Rochester (N. Y.) Gas and Electric Corp., D. L. Drake, Consolidated Gas Electric Light and Power Co. of Baltimore and G. B. Johnson, Minneapolis Gas Company. Addresses were delivered by H. S. Blanding, Consumer Power Co., Jackson, Mich., on

"Safety Practices on Customers' Premises," and L. G. Hanna, The Peoples Natural Gas Co., Pittsburgh, on "Outside Metering."

The Wednesday Customer Service Subcommittee luncheon conference was presided over by Vice-Chairman W. W. Gillis, Jr., of the Washington (D. C.) Gas Light Company. Devoted primarily to "Installation and Service Practices," portions were discussed by W. H. Weber, The Brooklyn (N. Y.) Union Gas Co., C. L. Ruff, Michigan Consolidated Gas Co., Detroit, J. J. Gagen, Consolidated Edison Co. of N. Y., Inc., and G. B. White, Minneapolis Gas Company.

The Monday luncheon of the Distribution Design and Development Subcommittee had Committee Chairman George D. Mock of the Washington (D. C.) Gas Light Co. presiding. "Service Design Practices" were presented by C. A. Brown, Rochester (N. Y.) Gas

and Electric Corp. and H. A. Anderson, Niagara Mohawk Power Corp., Syracuse. A panel discussion of "Methods of Load Forecasting" was moderated by V. F. Bittner, The Peoples Gas Light and Coke Co., Chicago, and participated in by Marshall S. David, Boston Consolidated Gas Co., George A. Morgan, The Peoples Gas Light and Coke Co., E. F. Trunk, Laclede Gas Co., St. Louis and B. E. Hunt, Illinois Power Co., Decatur.

The Wednesday Distribution Design and Development luncheon was presided over by F. G. Sandstrom, Consolidated Edison Co. of N. Y., committee vice-chairman. The luncheon conference was devoted to a general discussion of "Safe Design to Prevent Overpressuring of Gas Distribution Systems," led by W. P. Dick, United Fuel Gas Co., Charleston, W. Va., as moderator, with D. G. Findlay, Iowa-Illinois Gas and Electric Co., Fort Dodge, Iowa, and L. C. Rohret,

At one Motor Vehicles symposium, the leaders were (upper right, left to right): A. P. Strother, Cleveland; O. B. Maxwell, Milford, Conn.; R. O. Babcock, G. H. Eckels, Cleveland; Roy Balogh, St. Louis; D. K. Wilson, Albany, N. Y.



Tuesday morning Motor Vehicles Conference leaders (l. to r., sitting): S. G. Pittsburgh; Linn Edsall and W. E. Albright, presiding, Philadelphia; S. A. Detroit; R. B. James, New Orleans. Standing: R. Whitfield, O. H. Crowe.

Leading the Tuesday morning Corrosion Committee conference (lower right to left): L. A. Denison, Washington; J. L. Adkins, Chicago; W. J. Cincinnati, presiding; P. P. Skule, Cleveland and N. P. Peifer, Philadelphia.

Middle West Service Co., Chicago, as panel participants.

"To provide a satisfactory aerial equipment unit, a transportation manager must skillfully integrate the products of the chassis manufacturer, the body builder and the producer of aerial apparatus," said D. K. Wilson, Niagara Mohawk Power Corp., Albany, chairman, EEI Transportation Committee, as he opened the joint A. G. A.-EEI Monday afternoon Motor Vehicles Committee session. "The widest possible interchange of information is essential to proper specification. This is particularly true of new types of apparatus. And more particularly true of aerial equipment, where safety of life and limb depends on care and skill in design and specification."

The session was devoted to hearing and discussing papers by representative manufacturers on "Selection of Aerial Equipment and Related Chassis." Heard

were: Roy Balogh, McCabe-Powers Auto Body Co., St. Louis; G. H. Eckels, J. H. Holan Corp., Cleveland; O. B. Maxwell, Maxwell Equipment Co., Milford, Conn., and H. P. Strother, White Motor Co., Cleveland. R. O. Babcock, Consolidated Edison Co. of N. Y., Inc., chairman of the A. G. A. Motor Vehicles Committee, participated.

An open conference, Tuesday morning, was conducted by the Motor Vehicles Committee, presided over by W. E. Albright, Philadelphia Gas Works Div., The United Gas Improvement Co., Philadelphia. Presenting the report of the Subcommittee on Shop Tools and Plant Structures, Chairman Randolph Whitfield, of Georgia Power Co., Atlanta, explained that "the trend in big cities is toward decentralizing large headquarters garages into a number of smaller operating units strategically located throughout the metropolitan area." Considering ga-

rage vs. outside storage of vehicles from purely the economic viewpoint—if weight need not be given to protection of tools, materials, instruments or rubber goods from the weather, if danger of getting snowed in does not exist and if airborne ocean salt spray is not present—he expressed the belief that indoor storage is expensive and unprofitable. As regards mechanization of shops to reduce labor costs, Mr. Whitfield's report urged careful analysis of existing practices with an eye toward improving the efficiency of the tools and machines already in use.

Presenting the report of the Subcommittee on Personnel Selection, Training and Upgrading, R. B. James, New Orleans Public Service Inc., chairman, gave the results of a questionnaire that had been sent to members of that subcommittee. On the basis of the replies, it appears that hiring requirements generally have 20 to 35 as the age range, that physical examinations are required in all but one case, that grade school completion satisfies educational requirements of most companies, that previous experience is required only in three-out-of-five cases, and that selection for specific jobs is not practiced in any case. Very few formal training plans are in operation, he reported; one company holds formal training on new equipment on company time and three-out-of-five offer a correspondence course. Younger, inexperienced men with a fair degree of education are being hired in the low job classifications with the idea of training them on the job in preparation for the higher classification jobs. Selection, training and upgrading of personnel are governed by local conditions and no definite over-all pattern exists, the report concluded.

Chairman S. M. Foeller, of Michigan Consolidated Gas Co., Detroit, delivered the report of the Subcommittee on Accessories, Parts and Supplies. This report gave approval of the safety of compartment heaters "bearing well-known trade names [if they are] passed by the underwriters or trade associations, properly installed and maintained." His report concluded with a detailed presentation of the advantages and disadvantages of various types of mechanical vehicle washers, in comparison to hand washing.

The analysis of replies to a questionnaire exploring the type of records that have been found necessary in following maintenance operations was presented by S. G. Page, Duquesne Light

(Continued on page 50)



Industry news

Editors learn of gas kitchen's rising role

OVER 200 representatives from leading consumer and trade publications, gas utilities and range manufacturers attended the fourth annual Automatic Gas Range Conference, sponsored by the Gas Appliance Manufacturers Association, April 22 at the Hotel

Ambassador, New York. "The Kitchen—Hub of the Home," was the theme of the conference where speakers discussed the kitchen and home of tomorrow.

"Mass distribution of homes in the United States depends on how far the buying power of three-fourths of American families with incomes of \$5000 or less a year can be stretched," Arthur Goldman, market and research director, *Architectural Forum* and *Home and Home*, told the conference. Stressing the need for long term financing, Mr. Goldman called attention to a little-known type of credit, the open-end mortgage. This type of financing, he added would make possible a substantial increase in household appliance sales and the tapping of a multi-million-dollar home modernization market. Such a mortgage allows a homeowner to borrow additional money for repair, remodeling and improvement work, even the purchase of appliances, carpeting and furniture, he said.

"Kitchens Step by Step or Packaged?" was elaborated upon by Richard C. Chapman, secretary, Mutschler Brothers Company. He noted that "to design and install a beautiful,

well-planned kitchen requires a knowledge of hundreds of different products, as well as a knowledge of methods and procedure of getting the job done." The simplest way to renovate is to "search for a specialist who is experienced in turning a 'before' into an 'after' kitchen," he advised.

George Nelson of the American Institute of Architects suggested that a house should be looked at as having component parts. When one part becomes outmoded, it should be possible to remove it without disturbing the rest of the home, as is done when replacing parts of a structure such as an aeroplane. "The Shape of Things to Come," title of his talk, promises that homes will have a high degree of space and flexibility. Mr. Nelson predicted that the time is coming when the homeowner can go to a "supermarket," specializing in selling packaged units, such as kitchen or laundry that will slip into any space reserved for it in the house.

A question and answer period concluded the morning session at which Will T. Trueblood, Jr., director of advertising and promotion, Magic Chef, Inc. gave the welcoming address and Eleanor V. Wiese, home economics supervisor, Public Service Electric and Gas Co., Newark, N. J., presided as conference leader. Delegates then recessed to view the automatic gas ranges on display.

After luncheon, Harold Zeamer, sales promotion manager, Philadelphia Gas Works Division, United Gas Improvement Co., opened the afternoon session with his talk "Home and the Range." Mr. Zeamer spoke of the "problems of supplying a mass market with a cooking device" and how "the gas industry is unique in that it has a large number of manufacturers to supply this market." He commented on the various features of automatic ranges, some of which were noted by delegates during their "cook's tour" earlier.

Ruth Soule, home service director of the Brooklyn (N. Y.) Union Gas Company, explained how home service acts as the liaison between customer and company. The home service girls show the customer advantages of the range beyond its every day uses as well as coping with the problem of reaching people with varying degrees of understanding. Miss Soule introduced her assistant, Anne Sopensky, who gave a complete range demonstration and described various meals that she suggests to customers when she makes home calls.

The conference was brought to a close by Dione Lucas, TV personality and cooking specialist, who showed how to put "the finishing touch" on a plain cake with a fancy icing to make it appealing and above the ordinary.

Explain air conditioning

FOURTH DIMENSION of the Modern Home, a booklet to help the public understand air conditioning in the light of recent advances, has been produced by Servel, Inc.

The 20-page four-color booklet stresses the advantages and importance of an "ideal indoor climate, the home's fourth dimension," and describes all-year gas air conditioning.

The booklet is available from Servel, Inc., Evansville, Indiana.



B. B. Turner, sales manager, range division, The Maytag Co., shows deep well cooker to Jane Tiffany Wagner, GAMA home service editor, and Barbara Hewson, executive editor, "Better Living" magazine



Eleanor Wiese, home economics supervisor, Public Service Electric and Gas Co., gets a chuckle from the speech by Harold Zeamer, sales promotion manager, Philadelphia Gas Works Div., U.G.I. Company

Natural gas men inaugurate public relations program

THE INDEPENDENT Natural Gas Association has inaugurated an information program to tell the gas industry's story to the general public. C. P. Rather, association president, stressed that all segments of the industry—producers, royalty owners, pipeline and distributing companies—have an equal stake in the telling of this story.

Bozell & Jacobs, Inc., of New York, will be the program's public relations counsel. The program will be directed by a newly-created Public Information Advisory Committee under the chairmanship of W. E. Wilson, director of public relations, United Gas Pipe Line

Co., Shreveport, and John A. Ferguson, the INGAA's executive director.

Other committee members are: Joseph Bowes, president, Oklahoma Natural Gas Co., Oklahoma City; Glenn W. Clark, president, Cities Service Gas Co., Oklahoma City; N. W. Freeman, vice-president, Tennessee Gas Transmission Co., Houston; R. H. Hargrove, president, Texas Eastern Transmission Corp., Shreveport; J. J. Hedrick, president, Natural Gas Pipe Line Co. of America, Chicago; Paul Kayser, president, El Paso Natural Gas Co., Houston; John F. Lynch, president, LaGloria Corp., Corpus Christi; J. F. Merriam, presi-

dent, Northern Natural Gas Co., Omaha; A. N. Rippel, manager, Gas Division, Phillips Petroleum Co., Bartlesville; R. G. Taber, president, Atlanta Gas Light Co., Atlanta; Claude A. Williams, president, Transcontinental Gas Pipe Line Corp., Houston; and W. H. Wildes, president, Republic Natural Gas Co., Dallas.

The newly-launched program is an outgrowth of a study by a special committee from the INGAA board of directors. It has been planned to coordinate with other regional, local and national association public relations activities.

IGT publishes substitutability improvement report

a PAR activity

IMPROVEMENT OF OIL Gas Substitutability for Natural Gas by Pressure Gasification," an interim report, is now available from the Institute of Gas Technology, Chicago. The report, prepared by D. L. Nicol, J. J. Guyer, E. F. Searight and H. R. Linden,

presents the results of one phase of studies to produce high-Btu oil gases which can be substituted for or used as a supplement to natural gas in meeting base or peak loads.

The research is being conducted under the sponsorship of the American Gas Association through its Promotion Advertising and Research Program. Previous studies had shown

that substitutability is improved through modification of the oil gases by scrubbing. The present work indicates further improvement is achieved if the oil gases are produced under moderately superatmospheric pressures, which results in an increase in methane and ethane contents, and a decrease in hydrogen and ethylene contents.

Southern Gas Association holds convention in mid-May

THE SOUTHERN GAS Association's 45th annual convention will be held in New Orleans on May 11-13, with more than 1,800 delegates, visitors and their wives in attendance.

John H. Wimberly, SGA president and executive vice-president of the Houston Natural Gas Corp., Texas, has announced that there will be five sectional meetings in which members may examine their specific problems in light of today's industrial progress.

The list of speakers is headed by Senator George A. Smathers of Florida. Another pro-

gram highlight will be the premiere of SGA's new movie, "Natural Gas," which tells the story of the industry.

The distribution section will hear how new plastic pipe has been working in distribution systems. The transmission section will learn about new methods of compression in sending gas along the long haul from the gas field to the city gate.

The personal factor in making a big corporation tick will get the attention of the employee relations section, with emphasis on

dissemination of information. Dr. Arthur Secord, supervisor of adult education at Brooklyn College, New York, will lead some of these discussions.

Emphasis on the gas companies' selling job will bring out new industrial uses for gas in such far-flung lines as textile-processing and steelmaking, while other members of the sales section learn how natural gas can be of increased use to the homeowner.

Gas company accountants will exchange ideas on budgetary and accounting practices.

ASHVE '53 guide issued

THE 1953 EDITION of *The Heating, Ventilating and Air Conditioning Guide*, published annually by The American Society of Heating and Ventilating Engineers, has been issued. This 31st edition has a total of 1,560 pages and features many changes and additions. The technical data section, for instance, has been increased by 32 pages to a total of 1,096 pages, the largest to date. The manufacturers' catalog data section has also been enlarged to 432 pages.

The volume includes, for the first time this year, sections on snow melting, water vapor and condensation in building construction, industrial oil and gas burners, short chimneys, industrial degree-days, warm air system design and unit heaters.

The entire guide is 51 chapters long, covering such topics as: fundamentals; human reactions; heating and cooling loads; combustion and consumption of fuels; systems and equipment; special systems; instruments and codes.

Copies of the volume, priced at \$7.50 each, are available through the American Society of Heating and Ventilating Engineers, 62 Worth Street, New York 13.

Admen gather in Hot Springs hotel



Discussing future advertising plans at the A. G. A. Domestic Gas Copy meeting at The Homestead, Hot Springs, W. Va., April 20-21 are, standing left to right: D. R. Schively, Los Angeles; C. Fred Westlin, Newark, N. J.; N. D. Jennings, New York; W. B. Hewson, Brooklyn; G. A. Webber, Jackson, Mich.; Kenneth Fellows, Houston; L. C. Roberts, Dallas. Seated in same order: R. H. Cramer, New York; Gussie Jones, Atlanta; Noel Mallaby, C. W. Person, Margot Sherman, all from New York; M. H. North, Tulsa.

Mid-Westerners elect Baxter to succeed Abbott



Mid-West Gas Association officers gather at the annual meeting in Colorado Springs. Left to right: Second Vice-President M. K. Wrench, Metropolitan Utilities District, Omaha; First Vice-President M. B. Cunningham, Iowa Power and Light Co., Des Moines; President Everett Baxter, Central Electric and Gas Co., Lincoln, Nebr.; Secretary-Treasurer Harold O. Peckham, Northern States Power Co., St. Paul.

EVERETT BAXTER was elected to succeed Amos H. Abbott as president of the Mid-West Gas Association at the organization's 48th annual meeting in Colorado Springs, March 30, 31 and April 1. More than 400 persons registered at the meeting.

Mr. Baxter, who is general commercial manager of the Central Electric and Gas Co., Lincoln, Nebr., served as Mid-West's first vice-president last year.

M. B. Cunningham, superintendent of gas distribution for Iowa Power and Light Co., Des Moines, is now first vice-president, and M. K. Wrench, superintendent of gas distribution, Metropolitan Utilities District, Omaha, is second vice-president.

Harold E. Peckham was re-elected secretary-treasurer. He is gas superintendent of Northern States Power Co., St. Paul.

A featured program speaker was Frank C.

Smith, president of American Gas Association and president of the Houston (Texas) Natural Gas Corporation. Mr. Smith spoke on the topic "United for Action." Emphasizing the "dire need for a united front of the entire gas industry," Mr. Smith told of the gas industry development program and appealed for participation by all local utilities in A. G. A.-sponsored national programs.

Other program highlights were convention talks by Amos H. Abbott, Northern States Power Co., Minneapolis; Robert Hendee, president, International Gas Association and president, Colorado Interstate Gas Co.; James F. Donnelly, president of GAMA and vice-president of Servel, Inc.

Also featured were: J. J. Hedrick, president and general manager of Natural Gas Pipeline Co. of America; Frank Henke, sales manager, and William Johnson, sales engineer, Harper Wyman Co.; A. L. Dowden, supervising engineer, public utilities, Liberty Mutual Insurance Co.; M. A. Ennis, employee training director, National Committee for LP Gas Promotion; Paul Inskeep, sales manager, Detroit Michigan Stove Co.; Gaylord B. Buck, vice-president and general manager, Public Service Co. of Colorado. In addition addresses were delivered by: Julia Hunter, home economics director, Lone Star Gas Co.; E. O. Olson, vice-president and sales manager of KK Co.; and J. A. Wallace, assistant western sales manager, John Wood Company.

End-of-May chosen for Canadians' annual convention

THE NATURAL GAS and Petroleum Association of Canada will hold its 1953 annual convention in London, Ontario on May 28 and 29.

The business session, held in the evening immediately after the association's annual golf tournament, will be the first formal gathering.

On Friday, May 29, the association's president, S. B. Severson, will preside. Featured speakers will be Mayor A. J. Rush of the City of London; Raymond Latreille, president of Canadian Gas Association; George H. Smith, assistant managing director, American Gas

Association; Col. R. B. Harkness, Ontario's natural gas commissioner.

Ira Rapson, Michigan Consolidated Gas Co., Detroit, will then speak on "Utilization of Gas as Related to Sales." He will be followed by Remick McDowell, The Peoples Gas Light and Coke Co., Chicago, whose topic is "Public Relations—No Longer the Poor Relation."

The Friday afternoon session will be devoted to films, committee reports, elections and a panel discussion. The films scheduled to be shown are: "Walls Without Welds,"

courtesy of The National Tube Div., U. S. Steel Corp.; and "The Legend of Dan and Gus," courtesy of The Columbia Gas System.

After convention committee reports and election of officers, there will be a panel discussion with C. M. Sieger as moderator.

In addition to these business and information sessions, the meeting program includes professional entertainment, hospitality hour and a banquet. A tour through the plant of General Steel Wares, Ltd., has been arranged for non-golfers on Thursday morning while the golf tournament is taking place.

Southern California gas companies win top safety awards

SOUTHERN CALIFORNIA Gas Co. is building a good reputation—as the safest utility to work for in Greater Los Angeles.

Southern California and its sister company, Southern Counties Gas Co., merited the two top utility section awards in the annual con-

test of the Greater Los Angeles Chapter, National Safety Council.

Southern California was well in front of all other utilities, with the very low rate of 9.97, while Southern Counties placed second with a frequency rate of 20.

The first place plaque was awarded on March 13 at the annual dinner of the Los Angeles Chapter, Industrial Safety Council. E. E. Taylor, safety engineer for Southern California Gas, accepted the prize on behalf of the company.

IGT completes PAR-sponsored emulsion study

a PAR activity

AN INTERIM REPORT, Prevention and Resolution of Tar Emulsions in High Btu Oil Gas Production, by H. R. Linden and R. Parker, of the Institute of Gas Technology, Chicago, is now available. The report pre-

sents an evaluation of the use of wetting agents in controlling the water contents of high Btu oil gas tars.

The study reveals that a relationship exists between the water contents of stable emulsions of oil gas tars, and the interfacial tensions between such tar emulsions and the

water. Considerable reductions in the water contents of tar emulsions appeared to be attainable through addition of suitable wetting agents to the circulating liquor in high Btu oil gas plants. Such results are ascribed to reduction of the interfacial tension between the carrier water and the emulsion.

Kennedy retires, Delaware utility promotes two

M G. KENNEDY, vice-president and general manager of Delaware Power & Light Co., Wilmington, has retired after more than 50 years service in the public utility business. Harvey H. Plank, formerly vice-president in charge of engineering and operations, has been elected to succeed him. Mr. Plank will be followed by Frank P. Hyer, supervisor of operations.

Mr. Plank, a graduate of Clarkson College of Technology, came to Wilmington as assistant to the general manager of the company in 1943, and subsequently was elected vice-president. In his new position, Mr. Plank assumes responsibility for the supervision of all de-

partments of the company and its Maryland and Virginia subsidiaries.

Before coming to Wilmington, he was associated for many years with the United Gas Improvement Co., Philadelphia, and he has spent his entire business career in public utilities work. He is a member of the Delaware Society of Professional Engineers and the American Institute of Electrical Engineers. After graduating from the University of Wisconsin, he entered public utility work, devoting almost his entire career to this field. For several years, he was a member of the staff of the Wisconsin Public Service Commission, and just prior to his present assignment, he

was associated with the General Public Utilities Corp., New York, as operations and engineering consultant. Mr. Hyer joined the Wilmington utility in 1947.

At present time, he is chief of the utilities division, Delaware State Department of Civil Defense and a member of the Delaware Society of Professional Engineers.

In his new position, he will be in charge of engineering planning as well as property operations.

It was announced also that Fred T. Bear has been appointed manager of engineering; Evald R. Streed has been advanced to chief engineer; and J. W. Mackie is comptroller.

Personal and otherwise

N. J. utility selects Otto president

D ALE B. OTTO has been elected president and director of the New Jersey Natural Gas Co., Asbury Park.

Mr. Otto was formerly vice-president and general manager of the County Gas Co., Atlantic Highlands, New Jersey. County Gas is the utility which bought the gas division of Jersey Central Power and Light Co. to form the New Jersey Natural Gas Company in June, 1952.

Elected as new members of the board are Alfred Lee Loomis, New York, and James J.

Mitchell, Jr. of Philadelphia. Re-elected to the board are Henry Anderson, mayor of Stone Harbor, N. J.; Frank Blaisdell, Red Bank, N. J.; William Boland of Boland, Saffin & Co., New York; Kenneth Knoblock, Chicago; Irving Koerner, treasurer of the utility; William L. Maude, president, Howard Savings Institution, Newark; Herbert P. McCabe, vice-president Guaranty Trust Co., New York; and James S. Abrams, Jr., chairman of the board.

McNally leaves; Wickstrom, Wegener join A. G. A. staff

S F. WIKSTROM, JR., formerly with the S. Mississippi Valley Gas Co., Meridian, Miss., has joined the American Gas Association, New York, as promotional representative for the southern territory. Under a new service instituted last year as a part of the A. G. A. Promotion, Advertising and Research Plan, Mr. Wikstrom will visit gas utility companies in this area, acquainting them with the promotional and other activities being carried on by A. G. A. for the benefit of member com-

panies. Companies will be urged to take advantage of the many types of service and the various advertising and promotional material available through Association headquarters.

Also joining the promotional staff of A. G. A. is Chester Wegener, on loan from The Brooklyn Union Gas Co., as special service representative. He will continue the valuable service work initiated by James F. McNally, who was loaned to A. G. A. by Brooklyn Union for more than two years. The

objectives of this special service are to insure that all gas appliances in test kitchens of food companies, magazines, newspapers, schools and colleges, are kept at top efficiency, and to speed the replacement of obsolete models in these test kitchens.

Mr. McNally will return to his former duties with the publicity and advertising department of Brooklyn Union, with the appreciation of A. G. A. and the many persons he served in magazine, newspaper and food fields.

OHEA names president



Mary Huck (right) general home service director, Ohio Fuel Gas Co., is named president-elect of Ohio Home Economics Association by Dr. Dorothy Scott, School of Home Economics, Ohio State University. Dr. Scott is OHEA counselor

Fleming retires; Reynolds succeeds him

L ESTER E. REYNOLDS has been named to succeed Paul R. Fleming, retiring vice-president and treasurer of The Connecticut Light and Power Company. In addition, John M. Kramarsik has been appointed executive assistant to the president.

Mr. Fleming joined the Connecticut utility in January 1930 as assistant secretary. He became secretary in 1931; and secretary and treasurer in 1937; vice-president in 1947; vice-president and treasurer in 1951. He was elected a member of the board of directors this year.

Mr. Reynolds has been with the company since 1921. In 1925 he was named traveling auditor; in 1927, chief traveling auditor; in 1937, auditor and assistant treasurer; in 1947, comptroller.

Mr. Reynolds has been active for many years in Edison Electric Institute and American Gas Association. He has been chairman of the A. G. A. Accounting Section and at present is a member of its Managing Committee. He is also vice-chairman of EEI's

Committee on Uniform System of Accounts. Mr. Reynolds belongs to the Controllers Institute of America.

Mr. Kramarsik joined the company in 1922 in the operating department. In 1927 he was transferred to the accounting department where he since has held various executive positions, including those of assistant secretary and treasurer.

Name Miller vice-president

A LLERTON MILLER has been named vice-president of Texas Gas Transmission Corp., Owensboro, Kentucky. He was formerly secretary of the company, and is succeeded in that post by Everett O. Stoothoff.

Mr. Miller is a member of the Texas Gas board of directors. He is a graduate of Princeton University, class of 1939.

Prior to joining Texas Gas in 1952, Mr. Stoothoff was employed by the Chemical Bank and Trust Co. and the Chase National Bank, New York.



Wallace Murfit

director of public relations and manager of district offices of the Philadelphia Gas Works Division, The United Gas Improvement Co., died on April 1 at his home in Bucks County, Pennsylvania.

He had served the company for 35 years before he became ill several months ago.

At the time of his death, Mr. Murfit was a member of American Gas Association, The Pennsylvania Gas Association and the Philadelphia Public Relations Association. For many years he was active on the A. G. A. Entertainment Committee.

Mr. Murfit was graduated from the evening school of the Wharton School of Finance and Commerce, University of Pennsylvania.

Mr. Murfit is survived by his wife, Alice Howard Murfit; a daughter, Mrs. Curtis G.

Eves; a son, Lt. Col. Richard J. Murfit; and a brother, Richard H. Murfit.

Raymond L. O'Brien

president of The Detroit Brass & Malleable Co., died on March 24 in New York City.

Mr. O'Brien had been a leader in industry affairs, and was active in both American Gas Association and Gas Appliance Manufacturers Association.

He served GAMA as chairman of the Gas Valve Division in 1938-1948; as a member of the Board of Directors in 1938-1953; member of the Executive Committee in 1950-1953; and chairman of the Advisory Council, in 1948-1953.

In 1947, he was chairman of the A. G. A. Manufacturers Section and a member of the Board of Directors; from 1938 to 1943 he was a member of the Subcommittee on Listing Requirements for Gas Burner Valves.

Raymond Beeny

secretary-treasurer of the Alabama Gas Corp., died suddenly on April 10 while visiting at the home of C. Pratt Rather, president of Southern Natural Gas Corp.,

Birmingham. Mr. Beeny's death was attributed to a heart attack or stroke. He was 55 years of age.

Mr. Beeny joined Alabama Gas as secretary-treasurer in 1940. Prior to that, he had served a California utility, also an affiliate of Southern Natural Gas.

Mr. Beeny was a director of Alabama Gas Corp., and in addition was a member of the American Gas Association and the Comptrollers Institute.

He is survived by his wife and two sisters.

Carl P. Zimmerer

treasurer of Ebasco Services, Inc., New York, died on April 23.

Mr. Zimmerer was graduated from New York University in 1912, and joined Electric Bond and Share Co. in 1915 as traveling auditor. In 1927 he was named assistant general auditor, and in 1933 he was appointed general auditor of the company's foreign division.

Upon the formation of Ebasco Services in 1935, Mr. Zimmerer became general auditor of that company, and has served as treasurer since 1945.

Mr. Zimmerer left no immediate family.

Move toward merger of two oil and gas producers

TENNESSEE GAS TRANSMISSION Co. is taking steps to purchase control of American Republics Corp., with the intent of subsequently merging American Republics and Tennessee Production Co., a Tennessee Gas affiliate. The plan has been announced by Gardiner Symonds, president of Tennessee Gas

and chairman of the board of Tennessee Production.

Both American Republics and Tennessee Production are oil and gas producing companies operating in the Southwest with headquarters in Houston.

Mr. Symonds stated that Tennessee Gas

will file a registration statement with the Securities and Exchange Commission which will cover the sale of one million additional shares of Tennessee Gas common stock. The proceeds from the sale of this stock will be used to complete the financial arrangements.

Industrial relations

(Continued from page 20)

which prohibits such discussions of union matters and other union activity in his plant as will interfere with production during working hours. (Dixie Furniture Co. and CIO Furniture Workers, Case 11-CA-292, December 22, 1952.)

Employer's participation in decertification—Under a recent change of policy, the National Labor Relations Board now permits evidence of an employer's role in the instigation and circulation of a decertification petition. Previously, the board excluded such evidence because of its rule against allowing proof of unfair practices in election proceedings. (Morganton Full Fashioned Hosiery Co.)

Abandons term "office and clerical unit"—In order to avoid confusion as to the meaning of the term, "office and clerical unit" the NLRB has decided to substitute for it the terms, "plant clericals" and "office clericals." (D. M. Steward Manufacturing Co.)

Pitfall in union welfare plan—If you are tempted to negotiate one of those welfare plans open only to your union employees, watch out. The NLRB has just ruled that a union welfare plan cannot discriminate against employees who are not members of the union. The case came up this way:

A Washington (D. C.) shop, Jandel Furs,

contributed two percent of the earnings of all its employees—union and non-union to a welfare fund. The fund was set up under a contract with a local of the International Fur and Leather Workers. Benefits (health, hospitalization and death) were limited to members of the union in good standing only. The board ordered the company and union not to restrict the benefits to union members.

No fire inspectors in guard union—The Taft-Hartley Act excludes plant guards from a bargaining unit containing other kinds of employees, or from a union admitting non-guards. Question came up whether fire inspectors in the Briggs automobile parts manufacturing plant had to be left out of a unit of guards. The Board rules that fire inspectors are not guards.

Wage proposal called illegal—The National Labor Relations Board says that an employer who gave a wage increase to unorganized workers at his plant and then offered the same increase to organized workers on what amounted to a take-it-or-leave-it basis violated the Taft-Hartley Act. In adopting the findings of Trial Examiner Arthur Leff in a case against Texas Foundries, Inc., Lufkin, Texas, the board finds that the employer's adamant position in bargaining negotiations with AFL's Molders was a refusal to bargain in good faith. The Molders represented a unit of molders, coremakers, and ap-

prentices, but the company's other workers were unorganized.

● **Improvement in working conditions—Hand-care stations**—near production lines protect workers' hands, save trips to washrooms. Each station consists of a waterless soap dispenser and a wall cabinet of paper towels. Hammons Products, Inc., 2100 Lincoln Tower, Fort Wayne 2, Indiana.

Tint-glass—is a new liquid plastic that cuts down the sun's glare. Easy to wipe on your windows. Comes in green or blue. Can be applied for less than 3¢ a square foot. \$13.50 per gallon. Tint-Glass, c/o Roman, 721 Olive St., St. Louis 1, Missouri.

Hot coffee—No bigger than an office-type water cooler, Coffee Cub serves 100 cups of hot coffee without refilling. It is designed for small plants and offices. Rudd-Melikian, Inc., 1949 North Howard St., Philadelphia 22, Pa.

● **Court decisions—Discriminatory discharge and union activity**—The Pennsylvania Court of Common Pleas, Philadelphia County, has ruled that to warn an employee about poor work without mention of possible discharge if he failed to improve, and then to discharge him after some evidence of improvement, but after he had engaged in union activity of which management disapproved, is in violation of the State Labor Relations Act. (Pennsylvania Labor Relations Board v. Al-

bert M. Greenfield & Co.; Case 3510; January 30, 1953.)

Notice to laid-off employee—Information to employee that she will be notified when her services are required, is not a contractual promise by the employer to rehire her. (Kathleen F. Cummings v. Chicago, Aurora & Elgin Railway Co., Illinois Appellate Court, First Division, Case 45844, December 12, 1952.)

● **Employee smoking problem**—Like many plants, there are certain places which constitute normal fire hazards. Originally at Leeds & Northrup, Philadelphia, smoking was allowed only in private offices, then later in all office areas. The white-collar workers in the plant offices wanted permission to smoke. So a committee was set up under Vice-President Schofield to study the whole problem.

If interested, you can get a copy of "Smoking Plan" direct from Leeds & Northrup, Philadelphia 44, Pennsylvania. Be sure to check local and state fire regulations if you want to try it out yourself.

● **Company death benefits tax-free up to \$5000**—A new provision of the tax law excludes from gross income \$5000 of a death

benefit paid by an employer to one or more beneficiaries of a deceased employee under a contract of an employer. The proposed regulations of the Commissioner of Internal Revenue interpreting the provisions follow: 1. Payments from a welfare plan or trust are included. 2. The benefit may be paid out in a single sum or in installments. 3. If the employer retains the principle sum and merely pays interest, the interest must be included in income tax. 4. The exemption applies to total payments by each employer of the deceased. 5. The exemption will be given to a beneficiary whether it be a partnership, corporation, or individual. 6. If the payment by an employer is shared by several beneficiaries but is in excess of \$5000, the \$5000 exemption is shared by each beneficiary in proportion.

● **Higher group insurance after retirement**—This subject was presented at the Insurance Conference of the American Management Association, Drake Hotel, Chicago, November, 1952, by Edward R. Seese. Interesting data are presented in this dissertation concerning formulas for reduction of insurance where a group life plan is in operation. Write the American Management Association, 330 West 42nd Street, New

York 36, New York. (The cost is \$1.25 for non-members and \$1.00 for members.)

● **Pensions—Plan tied in with cost of living**—The Long Island Lighting Company has superimposed upon its group annuity plan a non-contributory Equity Annuity Plan, which is expected to provide a "more nearly constant purchasing power." The company felt it was important to provide additional retirement income into a plan so arranged that it will afford a variable dollar income, which tends to fluctuate with the cost of living. For further information, communicate with William A. Miller, Jr., assistant vice-president, Long Island Lighting Co., Mineola, New York.

Study by Congressional Committee—The Joint Congressional Committee on the Economic Report has printed a report on the study, by the National Planning Association, on "Pensions in the United States." This is described as a preliminary report on the study of our public and private pension systems, their effect on our national economy, and their contributions to the security and contentment of our aged citizens. Copy of this report will be sent you upon request to Oliphant Washington Service, 729-15th Street, North West, Washington 5, D. C.

Office mechanization

(Continued from page 22)

action taken even before the bills are printed.

The current billing, address and arrears cards are then sorted in preparation for billing, placed in the electric accounting machine and a supply of continuous blank bill forms are attached to the feeding device of the machine. All past due charges are itemized. This feature has served to forestall many questions from customers as to what they owe, as compared with our previous system, which just showed previous balance. As the machine prints and totals each bill, it also accumulates a grand total for each route which must balance with the route progress card. The address cards are separated from the ledger items, the address cards are returned to the address card file to be used next month and the ledger cards are returned to tub files.

Upon receipt of cash stubs from the cashier, the ledger card or cards representing items shown on the stub are pulled. The partial payments of an item, which are very few under this plan, are automatically reproduced to cover the partial payment and a cash report is prepared on the electric accounting machine. Summary control cards are automatically prepared showing the credit for each route. The paid in full cards then become

dead and the partial payment cards return to the ledger file to be applied to unpaid items.

At a predetermined time after discount date, a given cycle is sent to the tabulating department for forfeiting. On the reproducing summary punch a significant punched hole is put into the ledger cards. Henceforth, the electric accounting machine will regard that item as gross rather than net and a listing is made and a summary control card is automatically prepared denoting the amount of revenue gained by the forfeit.

We made other improvements in our accounting system besides installation of the I.B.M. equipment such as initiating a more systematic method of meter reading, installing machine methods in the cashiers' work, installation of the Remington Rand service location record and customers' history record, and the installation of a modern Burroughs payroll machine.

Meter reading sequence was changed under the Remington Rand plan, and the sheets filed in the books in the so-called around the block sequence, arranged so as to cover the route with the minimum amount of travel. Folio numbers were also assigned in the meter books in multiples of ten, example, 30 to 40, so that, if any new houses were built, new folio numbers may be inserted between them in the meter book.

Perforating machines were used for-

merly and payments for bills rendered customers were recorded manually by perforating both bill and stub with the date of payment. Part payments were recorded on bill and stub in pen and ink. This method necessitated adding up the stubs on an adding machine in order to balance the cash.

This system was superceded by installation of Burroughs receipting machines, which save time due to the fact that they carry a running total of receipts on tapes which can be checked with the stubs and balanced at any time of the day if necessary. Machines also record payments on both bill and stub, thereby eliminating possible chance of error in recording payment between the customer and the cashiers.

Previously, customers' orders for sets and removes were printed in quadruplicate on continuous forms written on a register. These orders were written as required and the original given to the workman, who performed the work and returned the orders to the office for processing, after which they were filed in the main office. The other copies were kept at various locations for checking and reference.

This record was installed by the Remington Rand service department with two cards for each location we serve. These cards are filed alphabetically in visible Kardex pockets by streets. The visible Kardex equipment is housed in

two-hour fire protected safe cabinets.

The first card is a meter order card carrying the customer's name, address, route and folio number, as well as the meter number and location, together with spaces in which to indicate work to be done. The second card also carries this information and remains in the visible file permanently for reference. Communications from customers are referred to the clerk in charge of the record, who indicates on the first card work to be done and then sends the card to the meter department as an order to execute the work indicated.

The files covering the Brockton and surrounding area are kept in Brockton, while each branch office keeps the files for the locations they serve. After the field work is completed, the cards for the branch offices are routed to Brockton for entering the changes in the accounting records, and are then returned to the branches.

This system eliminates the possibility

of duplicate orders and enables the file clerk to make sure that the address given by the customer is correct before sending the order to the meter department for processing.

The customer's history is designed to maintain the record of a customer as long as he remains on our lines, together with a record of his credit experience with us. The last item is provided chiefly by the collector's card showing amounts due and calls made. This card is filed in the customer's history pocket. Customers' history is kept exclusively at the main office. It is also used as a memorandum of payments made on discontinued accounts and of accounts bad debted.

Customers' deposits were kept on ordinary file cards until we adopted the Remington Rand system, when they were transferred to the customers' history record files and are now maintained there as a memorandum in the proper visible pocket. The actual bookkeeping and balancing of deposits is done simultaneously

with the gas consumers' accounts on punched cards.

During the latter part of 1945, it became apparent that, unless we could devise a more efficient means of handling our payroll, it would be necessary to add another payroll clerk.

We installed a Burroughs typewriter computing machine in 1946 which is much faster to operate than our former machine. Basically, the carriage operates on the same principle, but insertion of the check and account card is accomplished much faster, and the new machine provides automatic vertical and horizontal computations which furnishes the proof work formerly done as a separate operation on adding machines.

One payroll clerk is now handling increased work easily and we estimate that 60 percent more employees could be added to the payroll without need for an additional payroll clerk.

As I said before, the results have exceeded our expectations.

Research and Utilization—

(Continued from page 9)

ators (particularly elimination of fly ash, odor and smoke), gas pressure regulators, range pilots, water heaters and duct filters.

With a good-natured approach Karl B. Nagler, vice-president, The Peoples Gas Light and Coke Co., Chicago, eased the conference into its second morning session. Quantitative data on the corrosion of a wide variety of metals and materials have been made available by studies at Battelle Memorial Institute, said John Corsiglia, utilization engineer, Janitrol Engineering Dept., Surface Combustion Corp., Columbus, Ohio, in a paper on "Heat Exchanger Design in Light of A. G. A. Corrosion Research." He concluded that such research has provided "a sound basis for combining known service life and the test results of the Battelle investigation to evaluate the life expectancy of given designs and the comparative worth of the same design using different metals and materials."

Here the floor was given over to a clinic on "What I Would Like to See in Domestic Gas Appliances and Services," with George M. Nash, utilization engineer, Central Hudson Gas & Electric Corp., Poughkeepsie, N. Y., as moderator. Architect Robert A. Little, head of Robert A. Little Associates, Cleveland, urged three-way planning to em-

brace mechanics, planning and visual design. He urged ease, economy and safety in operation. Best designs, he said, are made to serve the people who use them. Above all, he urged design for use first—and then, he insisted, such appliances will sell automatically.

Speaking as a home economist, Mrs. Mary L. Bohn, home service director, Laclede Gas Co., St. Louis, said she would like to have hot water heaters with remote controls to enable thermostats to be set without a trip to the basement; more efficient disposal of lint and moisture in gas clothes dryers; dryers that open on top—instead of the side; attractive gas incinerators for kitchen or utility room, and quieter gas furnaces.

"Gas appliances, combined with gas utility sales, is big business," spearheaded a searching inquiry on salesmanship by J. W. Ferry, appliance manager, The May Company, Cleveland. "If we are to survive," he insisted, "we must develop a specialty selling organization." His stated objective was to conduct business to be mutually profitable for "our dealership—salesmen—manufacturers—distributors—cooperating utilities." More manufacturers should standardize their lines to permit greater flexibility, he went on. And, he declared, manufacturers should shorten their lines to ten models or fewer, to enable all franchised dealers to carry a full line or they should not be dealers.

Speaking from the customer service viewpoint, J. G. White, superintendent of distribution, The Peoples Gas Light and Coke Co., Chicago, stated that "serviceable as it is, your kitchen gas range constantly is being improved by science." Down the line, he said, there have been about eighty research projects covering such fields as venting, ignition and combustion to promote safe and efficient appliance performance. "These studies are necessarily conducted in the A. G. A. Laboratories and various universities but, in the final analysis—the customer's home is the place where the appliance is put to the test and under the customer's own conditions."

Pinch-hitting for G. J. Sandusky, superintendent of residential service, Southern California Gas Co., Los Angeles, who was unable to attend because of a business emergency, C. George Segeler, engineer of utilization, A. G. A., New York, N. Y., invited the cooperation of gas company and appliance manufacturer engineers in compiling a new A. G. A. Appliance Service Manual.

Far from the immediate domestic technical scene, a non-industry talk on "Socialism By Treaty" was given at the luncheon session by William H. Wuerteman, assistant to the president of The Williamson Heater Co., Cincinnati. He sounded a tocsin that the United States might fall prey to a "socialistic law disguised as a treaty . . . entered into by

the United States" without review by the U. S. Senate. Thus, he noted, "Socialism could come in through the back door—by treaty—taking precedence over our Constitution." Luncheon session chairman was W. R. Pringle, secretary of the East Ohio Gas Co., Cleveland.

At the sixth and final session, Wednesday afternoon, Ernest J. Horton, assistant to the president, Robertshaw-Fulton Controls Co., Youngwood, Pa., was chairman. "Automatic Storage-Type Domestic Water Heater Investigation" was portrayed by Eugene F. Hebrank, associate professor of mechanical engineering, University of Illinois, Urbana, Ill. Greater consumer demands for increased flow of hot water have imposed large new demands on domestic residential water heaters. Preliminary results show that water temperature varies around four degrees from the top to the bottom of heaters during stand-by conditions—contrary to popular misconception. Among other conclusions, he noted that the fully immersed thermostat commonly used by gas appliance makers are more satisfactory than strap-on type thermostats. Possible future work is envisioned, but preliminary results will be presented in a report by the Illinois Engineering Experimental Station.

Although primary aeration of flames

as a major variable has been given much attention in burner design and operation research, more consideration was devoted to secondary aeration by Herbert Luoma, utilization engineer, Alabama Gas Corp., Birmingham, and E. J. Weber of the A. G. A. Laboratories. Among other conclusions, they found that recirculation of flue gases has a greater influence on combustion than perhaps heretofore realized. While research still remains to be done in this field, they believe that a review of secondary aeration fundamentals may possibly provide a better understanding of the effects of recirculation of products of combustion into the flames.

Success of the automatic range ignition program has been shown by several utilities which already have held large campaigns promoting sale of ranges equipped with the single point and electric ignition devices designed for and proved by this program. Because of severe illness, William R. Teller, director of engineering, Bryant Heater division, Affiliated Gas Equipment, Inc., Cleveland, was unable to give his paper which was read by Donald G. Evans, Jr., manager, Range Lyter Sales, of Bryant Heater Division. Among other facts, he stated that 1,419 of these PAR program ranges were installed by 47 utilities. "Judging from the interest which range

and controls manufacturers have shown in the idea of the totally cold range," he inferred, "more versions are just around the corner."

"Dirt" got a once-over from Howard A. Brown of Rochester Gas and Electric Corp., who asked, "Can Kitchen Soiling Be Conquered?" Regardless of the type of fuel used, he pointed out, cooking may release and circulate air-borne greases. This is significant since the average housewife spends 65 percent of her household working hours in the kitchen.

A corrective method, he suggested, "would be to catch odors and vapors at the source and carry them outside the home before grime can be deposited on walls, and odors spread through the house." In concluding he agreed with an earlier A. G. A. research bulletin which showed that it is possible to "remove at least 50 percent of the heat produced by range operations, and under certain conditions as high as 70 percent. Moisture produced by cooking can be removed up to 98 percent."

Tuesday evening the conference participants eased into a social hour in the Statler Grand Ballroom, provided for the ladies and gentlemen through the courtesy of Gas Appliance Manufacturers Association members.

The dealer's angle

(Continued from page 11)

3. Today's small kitchens require additional insulation in most ranges.

In the modern kitchen, comfort is more important than ever before.

1. Since today's kitchens are more compact, we receive considerable complaints because of the heat generated by continuous use of the range.

2. Careful consideration should be given to the expanding of a single point gas or electric ignition. This will keep small kitchens from heating when the range is not in use.

Convenience is an important selling factor, too:

1. Smooth operating leveling mechanisms should be standard on all ranges for easy adjustment and cleaning, for leveling is one of our greatest complaints from our customers.

2. We would like to see graduated click valve or similar settings of $\frac{3}{4}$, $\frac{1}{2}$ and $\frac{1}{4}$ of full input ratings for all top

burner valves, in addition to the present thousand and one, simmer and keep warm positions. Many of our customers ask if these electric range features can be made available on gas ranges.

3. Larger precision ovens are desirable.

4. Waist high broiler would aid sales.

5. All ranges should have built-in lights for top work surface.

Since security and safety concern all home owners, we suggest:

1. All manufacturers should be asked to produce CP type ranges. Through increased production volume, costs can be reduced.

2. Automatic gas range advertising should stress whole-meal cooking, low temperature cooking and above all, safety. Today children are as safe in the kitchen as in the nursery. Yet little is done to incorporate this in our advertising. Since many ranges today are similar, the original CP standards should be given some consideration. CP standards should be improved in order to make it the top of the gas range line or it should be eliminated, for many standard ranges

employ the same features in models as are employed in CP ranges.

Pride of possession is an important sales consideration, hence:

1. Modern ranges require simplicity of design, easy cleaning and plain simple lines.

2. Transportation and storage has created a problem with regard to the cleanliness of all appliances today, and particularly gas ranges, for the filth, dirt and grime of warehousing permeates the entire range. It is impossible to make a delivery in a customer's home and take time to clean the range without completely disassembling. When service organizations deliver the product in the customer's home, its condition is really a sight for sore eyes. We suggest that the entire industry adopt a paper bag to cover the entire appliance so that when it is taken into the customer's home it is like the product seen in our showroom.

Advertising should stress relaxation and leisure on all CP and fully automatic advertisements, as well as correct design, style, sound construction, durability, dependability, accuracy, uniformity, low

cost operation, compactness, size, ease of operation and full-meal cooking.

Service policies should be carefully studied and carefully spelled out:

1. As a retailer we would like to have the manufacturer and the utility furnish us in writing what they consider to be the fundamentals of a good installation. In this way we could contract with our service company and be on a firm footing as to what constitutes a good installation.

2. We would like to see a clean range, oven leveled, top burners checked and pilots adjusted, so that burners light automatically. Oven thermostat should be calibrated to give the best results from date of installation.

3. Oven and broiler should be checked for correct gas input.

4. Customer should be instructed in the care and use of the range.

5. This total installation may be prohibited in regions such as ours for it requires two men and a truck to affect delivery. The time consumed in calibrating the oven would perhaps be too costly; however, we feel that if this cannot be done as previously suggested at the manufacturers level, then something must be

done to keep this cost within reason during installation. Your suggestions will be heartily recommended.

We think the following suggestions should be given serious consideration by the manufacturer of automotive gas clothes dryers:

1. Lower temperature type dryers with greater velocity of air in vent-types will be required because of the new miracle fabrics which are fast becoming a larger part of the home laundry load.

2. Easier access to lint traps, and also easier accessibility in loading and unloading clothes.

3. Unexposed heating elements to eliminate odor of scorch burn from flying lint.

4. Lower competitive prices—gas vs. electricity.

5. Simplified humidity control on non-vent type dryers.

6. Porcelain finishes, or at least porcelain top, for work table surface.

7. Flush wall mountings.

8. Easier accessibility to gas burners for cleaning purposes.

9. Stainless steel interiors in the tumble drum, thus permitting greater reflec-

tion of usable heat at lower temperatures.

10. Solid drums in preference to perforated type, when clothes make contact with drum and baffles.

Since the gas industry is the sixth largest industry in the world, and since the manufacturers of gas appliances are small in comparison with the electrical industry, it would seem that there should be some coordinated effort on the part of the gas utilities, gas manufacturers and American Gas Association to contribute to a national advertising fund that would tell the gas story in all its splendor to the great television audience. A big name in the entertainment field would do much to glamorize the gas appliance industry.

It is true that the electrical manufacturing industries in most cases are substantially large enough to conduct their own programs and have done an excellent job in telling their story.

This is not true, however, with regard to gas appliance manufacturers. If something could be done in this direction, I am confident it would materially help their marketing program.

Operating

(Continued from page 41)

Co., Pittsburgh, chairman, Subcommittee on Forms, Records and Operating Statistics. The questionnaire, sent to the 45 members of the EEI-A. G. A. Transportation Committee, elicited responses from 39, representing fleets operating 32,033 motor vehicles. On the basis of the responses, the committee concluded that, while there is considerable similarity in some of the basic forms used to authorize and record automotive work, a standard individual vehicle summary form would have little application to this group.

The report of the Subcommittee on Maintenance and Overhaul Procedure, presented by Chairman O. H. Crowe, Atlanta Gas Light Co., emphasized that "a planned maintenance program will give greater efficiency and lower cost. The preventive maintenance program should be first in the order of good maintenance practices . . . then the heavier phase of maintenance takes over."

R. O. Babcock, Consolidated Edison Co. of N. Y., Inc., presided at the Tuesday luncheon conference of the Motor Vehicles Committee. The program was devoted to "Capital Expenditure Management of the Motor Vehicle Program." Joel Dean, economic and management

counsel, and professor of business economics, Columbia University, New York, delivered a comprehensive analysis of this subject.

The Wednesday Motor Vehicle luncheon conference was devoted to panel discussions of: "Training of Equipment Operators," with D. K. Wilson, Niagara Mohawk Power Corp., Albany, acting as moderator; "Safety Awards," led by W. E. Albright, Philadelphia Gas Works Division of The United Gas Improvement Co.; and "Handling of Driver Accidents," with P. W. Rogers, The Ohio Fuel Gas Co., Columbus, as moderator. Linn Edsall, Philadelphia Electric Co., and chairman of the Subcommittee on Vehicle Selection, Utilization and Retirement, presided.

The driver training program of the Long Island Lighting Company was described in detail by Vincent A. Howell, of that company, Hicksville, N. Y., during the Thursday morning Motor Vehicles Committee conference. W. W. McCartney, The East Ohio Gas Co., Cleveland, and vice-chairman of the Motor Vehicles Committee, presided.

Opening the Tuesday morning conference of the Corrosion Committee, I. A. Denison, National Bureau of Standards, Washington, reported the condition of

the coating and the results of measurements of corrosion made on short lengths of galvanized steel pipe exposed to different soil conditions. "After exposure for 13 years, a three-ounce coating remained virtually intact in approximately one-half of the 15 soils to which the specimens were exposed. The galvanized specimens were especially resistant to corrosion in inorganic soils which were highly corrosive to bare steel. In only two soils, both organic, failure of the zinc coating after relatively short periods of exposure was accompanied by marked corrosion of the steel pipe. The high corrosion resistance shown by the galvanized coatings in most of the soils cannot be due entirely to the sacrificial corrosion of the outer zinc coating because complete removal of the coating was not accompanied by acceleration of the rate of corrosion. A film, composed largely of corrosion products, which was deposited as a result of galvanic action between the outer zinc coating and the alloy layer is believed to be an important factor in the behavior of the galvanized specimens."

At the same morning conference, N. P. Peifer, The Manufacturers Light and Heat Co., Pittsburgh, and chairman, Subcommittee on Causes of Corrosion, explored the "Use of Plastic Tapes vs.



1953

MAY

- 4-5 • Eastern Natural Gas Regional Sales Conference, Hotel William Penn, Pittsburgh, Pa.
- 4-6 • LPGA Annual Convention, Conrad Hilton Hotel, Chicago, Ill.
- 4-8 • A. G. A. Industrial Gas School, Sheraton Cadillac Hotel, Detroit, Mich.
- 7-8 • Public Utilities Advertising Association, Hotel Chase, St. Louis, Mo.
- 11-13 • Southern Gas Association, Annual Convention, Jung Hotel, New Orleans, La.
- 11-15 • National Restaurant Association, Annual Convention & Exposition, Navy Pier, Chicago, Ill.
- 11-15 • National Fire Protection Association, Annual Convention, Edgewater Beach Hotel, Chicago, Ill.
- 12-14 • Pennsylvania Gas Association Annual Convention
- 14-23 • International Petroleum Exposition, Tulsa, Okla.
- 20-22 • GAMA Annual Meeting, The Greenbrier Hotel, White Sulphur Springs, W. Va.
- 25-27 • A. G. A. Production and Chemical Conference, Hotel New Yorker, New York City
- 28-29 • The Natural Gas and Petroleum Association of Canada, London, Ontario

JUNE

- 1-4 • Edison Electric Institute, Atlantic City, N. J.
- 14-18 • Canadian Gas Association, Windsor Hotel, Montreal, Canada.
- 22-23 • Michigan Gas Association, Grand Hotel, Mackinac Island, Mich.
- 23-26 • American Home Economics Association, Kansas City, Mo.
- 29-30 • A. G. A. New York-New Jersey Regional Gas Sales Conference, Monmouth Hotel, Spring Lake Beach, N. J.
- 29-July 3 • American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J.

JULY

- 13-17 • National Housewares & Home Appliance Manufacturers' Exhibit, Auditorium, Atlantic City, N. J.
- 20-22 • American Trade Association Executives, Annual Meeting, Haddon Hall, Atlantic City, N. J.

AUGUST

- 26-28 • The American Dietetic Association, Annual Meeting, Los Angeles, Calif. (A. G. A. will exhibit.)

Hot Enamels" and described the results of tests of each type of protective coating. "Evaluation of Soil Survey Data" was presented by P. P. Skule, The East Ohio Gas Co., Cleveland, and chairman of the Subcommittee on Underground Corrosion Mitigation Practices.

The Tuesday Corrosion Committee luncheon conference was devoted to a panel discussion on "Corrosion Mitigation Practices," with F. E. Kulman, Consolidated Edison Co. of N. Y., Inc., as moderator and participated in by: H. L. Hamilton, A. V. Smith Co., Bala-Cynwyd, Pa.; P. P. Skule, The East Ohio Gas Co., Cleveland; C. W. Beggs, Public Service Electric and Gas Co., Newark, N. J.; V. V. Kendall, National Tube Division, U. S. Steel Co., Pittsburgh; and E. R. Thalmann, Ebasco Services, Inc. The discussion was based on the report of the Corrosion Committee on its "Survey of Corrosion Mitigation Practices on Underground Gas Pipes." W. J. Schreiner, The Cincinnati Gas and Electric Co., and chairman of the Corrosion Committee, presided.

A symposium on aboveground corrosion mitigation practices occupied the Wednesday luncheon conference of the Corrosion Committee, under the chairmanship of J. L. Adkins, The Peoples Gas Light and Coke Co., Chicago, committee vice-chairman. With relation to the master subject, R. S. Wise, National Aluminate Corp., Chicago, spoke on "Water Treatment"; L. S. Oyster, E. I. duPont de Nemours and Co., Chicago, on "Paints and Coatings"; W. L. Kinney, Electric Rust-Proofing Co., Chicago, on "Cathodic Protection of Aboveground Structures"; and T. P. May, International Nickel Co., New York, on "Rust-Resistant Alloys."

On Tuesday the Construction and Maintenance Subcommittee devoted its luncheon conference to a variety of discussion topics, including: "Leakage Survey Procedures," with discussion led by P. G. Bruck, The Peoples Gas Light and Coke Co., Chicago; and "Restoration of Gas Service After Major Interruptions," led by P. W. Geldard, The Consumers' Gas Co. of Toronto, Toronto, Ontario, Canada, and vice-chairman of the Distribution Committee. Also discussed were clamping procedures, damages to gas mains by outside contractors, main cleaning, size and type of maintenance crews, equipment for large diameter bores and heavy equipment operation and maintenance. Committee Chairman

H. M. Blain, New Orleans Public Service Inc., presided.

The Construction and Maintenance Subcommittee luncheon conference on Thursday heard discussions of "Safety Procedures for Street Opening Work," by R. I. Amson, Consolidated Edison Co. of N. Y., Inc.; "Corrosion Practices for Short Main Extensions," by N. P. Peifer, The Manufacturers Light and Heat Co., Pittsburgh; and "Training Schedule for Underground Personnel," by D. E. Barthel, Consumers Power Co., Flint, Michigan. Vice-Chairman K. W. Person, Minneapolis Gas Co., presided.

A luncheon of the Meters and Metering Subcommittee, Tuesday, was presided over by Committee Chairman H. S. Houghton, Michigan Consolidated Gas Co., Detroit. During this meeting, J. T. Stine, New Orleans Public Service, Inc., explored "House Service Regulators"; Parker S. Anderson, Michigan Consolidated Gas Co., who presented the "Economic Comparison of Small Ironcase Meters vs. Small Tinned Steelcase Meters"; S. C. Brophy, The Peoples Gas Light and Coke Co., Chicago, set forth a plan of "Safe and Efficient Meter Shop Operation"; and A. C. Bateman, Providence (R. I.) Gas Co., described "Meter Fundamentals."

The Thursday luncheon of the Meters and Metering Subcommittee was devoted to round table discussions under the leadership of Gilbert Estill, Oklahoma Natural Gas Co., Tulsa. Panel members included George E. Griffin, The Brooklyn (N. Y.) Union Gas Co., James Chrisman, The East Ohio Gas Co., Cleveland, Elmer Becker, Citizens Gas and Coke Utility, Indianapolis, B. C. Holman, Minneapolis Gas Co., Ralph Davis, Long Island Lighting Co., Mineola, N. Y. and Joseph Pelletaire, Northern Indiana Public Service Corp., Hammond. Chairman H. S. Houghton, Michigan Consolidated Gas Co., Detroit, presided.

Also on Thursday was the luncheon conference of the Subcommittee on Plastic Pipe Standards, presided over by Chairman Gordon G. Dye, of Southern California Gas Co., Los Angeles. "Physical and Chemical Properties of Plastic Pipe Materials" were described by Warren G. Swishelm, Clopay Corp., Cincinnati. John F. Fugazzi, Public Service Co. of Colorado, Denver, reported on "Experience with Plastics in the Gas Industry," and A. D. Simpson, Jr., United Gas Corp., Houston, gave a "Review of Proposed Standards."

Personnel service

SERVICES OFFERED

Comptroller-Treasurer or Assistant—Fifteen years' experience in accounting, financial, rate and economic areas of gas and electric utilities located in east and middle west. Presently Assistant to (Financial) Vice President, responsible systems and procedures. MBA Harvard Business plus AB, mathematics, statistics, finance, economics, and accounting. Locate anywhere U. S. Married, two sons (37). 1728.

Consulting Service—Available to gas companies who desire to improve safety experience and employee relations. Twenty years successful experience in gas safety work, member of American Society of Safety Engineers. Services available July 1, 1953; however, will discuss your problems prior to that date. 1729.

Assistant to Gas Company Executive—More than 30 years' experience in operation and construction work of the gas industry. Extensive administrative experience in district management, rate matters, materials procurement and stores management and systems. Broad contacts with industries serving the gas industry. Background in production, distribution, transmission and storage. 1731.

Utilization and Development Engineer—Graduate mechanical engineer, married. Desires association with manufacturer located in Los Angeles area. Twelve years' experience in large eastern utility in industrial and commercial gas utilization. Experience includes special burner and furnace design, thorough knowledge of control systems including electronic type and combustion characteristics of manufactured, natural and mixed gases. 1732.

Sales and Product Development Engineer—Heating and air conditioning expert. Has held positions of top responsibility with successful record of accomplishment. Knows intimately gas and oil burner industry and personnel. Has thorough knowledge of A.G.A. and Underwriters' Laboratories and procedures. Presently in top position. Interested in a real combination engineering and sales opportunity or in developing own business as a manufacturer's agent in a suitably productive area. 1733.

Gas Engineer—Graduate M.E. 12 years' experience with natural gas utilities in pipeline, piping system, metering, and regulating station design, construction, operation, and maintenance—both transmission and distribution. Good record of cooperation with associates, ability to handle men, and sustaining customer relations. Desires opening where qualifications will be fully utilized. 1734.

Gas Utility Executive—22 years' engineering and sales management experience. Graduate engineer desires greater opportunity. 1735.

Operation Engineer—Qualified to assume responsibility for operations and construction of a natural gas company or pipe line construction project. Experience includes natural gas distribution engineer, construction management engineer and geodetic engineer. At present the commanding officer of a geodetic unit supervising the operations of various contracts in the Far East. Available June 1953. 1736.

Superintendent—Man with long experience with manufactured gas plant, distribution and service. Also natural and propane gases. Wishes permanent employment. At present employed. Can come well recommended. Distribution and service preferred. 1737.

Gas Appliance Adjuster—25 years' experience on domestic, commercial, restaurant appliances on manufactured, natural and propane gases. Would like to make connections with company supplying bottle gas territory, or any appliance adjusting company offering steady, profitable employment. Willing to travel. 1738.

Administrator—Public Relations—10 years experience in all phases of oil and gas operations. Diversified training in responsible work. Desires administrative or public relations position to utilize technical knowledge and writing experience with a gas company or a trade organization. College degree and LLB. (31). 1739.

Manager—20 years with combination natural-bottled gas operations. All around experience in building business, increasing customers and building load, office management and construction. 1740.

POSITIONS OPEN

Distribution Engineer—for natural gas system in Midwest. Now serving 25,000 customers. Must be experienced in distribution engineering and operations. College graduate preferred but not essential. Give age, experience, references, salary expected. All replies held confidential. 0684.

Young Engineer with natural gas pipeline background interested in trade association work. Location—New York. 0685.

Bookkeeper-Accountant with gas utility experience. Good salary and opportunity for qualified person. Replies confidential. Reply giving age, experience, references. 0686.

Vice President and General Manager—To assume top management duties including administration, public relations and supervision of all phases of gas operations of an independent New England Gas Utility—15,000 meters—natural gas (formerly carburetted water gas). Should have considerable gas utility experience. Give complete details of personal data, training and experience. 0688.

Systems and Methods Director—Good career opportunity for man experienced in utility customer accounting. Must also have systems and methods experience, though not necessarily in the utility industry. Age 26 to 45. Natural gas utility company engaged in production, transmission, and distribution in four states. Offer a full program of employee benefits. 0689.

Gas Salesman—Excellent opportunity for producer thoroughly experienced in household, commercial and industrial gas appliance sales, management, advertising, etc. Small southern Ohio utility with no present restrictions has immediate opening. Give complete resume including salary expected. 0690.

Home Economist Supervisor—Progressive natural gas utility in the Southeast desires Home Economist experienced in the gas industry, capable of planning and directing promotional programs. Desirable to have radio experience if not TV. 0691.

Development program

(Continued from page 5)

And, finally, it is urged by both the A.G.A. and the GAMA committee that their two Associations jointly prepare industry-wide market potentials and provide utilities with technical advice and suggest procedures to aid them setting sales potentials in their areas.

A common meeting ground for the allied industries represented by the two groups is found in marketing, service, safety, research and product development and public relations. Each of these areas was thoroughly studied for trends and possibilities. And on the basis of these studies, each Association adopted a policy statement and a program of action, addressed to its members, but coordinated between the two groups.

Through the series of meetings and the presentation thereof, the findings and recommendations of the joint A.G.A.-GAMA Gas Industry Development Committee, top executives are being given a realistic appraisal of both the seriousness, and the shining potentialities, of the job ahead of them. They are being told of the importance of reviewing existing policies, of augmenting their sales and promotional forces and of surveying their individual markets.

The Gas Industry Development program is being broadly outlined on a national scale, with opportunity left for each utility and each distributor to sketch in local details. Authoritative in its thorough analysis of the competitive situation, and inspiring in the unified, hard-hitting promotional leadership it outlines for the gas industry, the program is a major step toward a united utility-appliance manufacturer front.

Award honors A.G.A.

(Continued from page 17)

to know our resources—our national wealth in things and in their possibilities; the second step is to know their availability for immediate use; the third step is to guard them against waste either

through ignorance or wantonness; and the fourth step is to prolong their life by invention and discovery.

"President Smith, on behalf of the Secretary of the Interior and the director of the Bureau of Mines, I hand this certificate to you, as the representative of the American Gas Association. I do so in

full confidence that the Association and the bureau will move forward together in research that fosters conservation and stands as an example of the way a trade association and a federal agency can cooperate for the benefit of government, industry, and the general public."

A.G.A. Advisory Council

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